
UNITED STATES DEPARTMENT OF LABOR

Frances Perkins, Secretary

BUREAU OF LABOR STATISTICS

Isador Lubin, Commissioner (on leave)

A. F. Hinrichs, Acting Commissioner

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Handbook of Labor Statistics

1941 Edition

Volume I

All Topics Except Wages



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LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington, December 15, 1941.

The SECRETARY OF LABOR:

I have the honor to transmit herewith the 1941 edition of the Handbook of Labor Statistics. This is the fifth edition of this publication, the latest previous one having been issued in 1936.

The preparation of this publication was essentially a cooperative enterprise, involving all branches and divisions of the Bureau of Labor Statistics, as well as other bureaus and divisions of the Department of Labor. It is thus impracticable to give credit in this place to each of the individual contributors, but footnote citations of authorship are given in the case of major articles. The planning and organization of the Handbook as a whole was under the general direction of Hugh S. Hanna, Chief of the Editorial Division, the final critical editing being done by Grace F. Felker of that division.

Respectfully submitted,

A. F. HINRICHS, *Acting Commissioner.*

HON. FRANCES PERKINS,
Secretary of Labor.

*Bulletin No. 694 (Vol. I) of the
United States Bureau of Labor Statistics*

Handbook of Labor Statistics

1941 Edition

Introduction

This is the fifth in the series of Handbooks of Labor Statistics to be issued by the Bureau of Labor Statistics, the earlier editions being dated, respectively, 1926, 1929, 1931, and 1936.

In its general form this edition follows closely that observed in the preceding Handbooks. There is necessarily repetition of many subject titles, but there is no repetition of subject matter except that, for convenience of reference, in the case of most of the simpler statistical series, such as the price and cost-of-living indexes, the figures have been carried back for a number of years.

The material presented in this volume, as in the preceding editions of the Handbook, represents for the most part digests of reports or articles previously published by the Bureau of Labor Statistics. However, other bureaus and divisions of the Department of Labor, notably the Children's Bureau, the Women's Bureau, and the Division of Labor Standards, have contributed articles dealing with subjects coming within their fields of activity, and, in a few instances, outside authoritative sources have been drawn upon.

During the past few years there has been a marked increase in the source material on labor published by various agencies of the Federal Government. Of the periodical publications in this field the oldest is the Bureau of Labor Statistics' *Monthly Labor Review*, which has been issued continuously since 1915. Other printed periodicals of the Department of Labor, with the dates when they were established, are: *The Woman Worker* of the Women's Bureau (1920), *The Labor Information Bulletin* of the Bureau of Labor Statistics (1934), *The Child*, of the Children's Bureau (1936), and *Labor Standards* of the Division of Labor Standards (1938). Of the periodical publications of other Federal agencies the *Social Security Bulletin* of the Social Security Board is of particular value as a source of information regarding the various aspects of social insurance.

In these various publications there is presented a current record of important labor developments. This record has been constantly improving in scope and adequacy of treatment, although there are still many important gaps in our knowledge of labor conditions in the United States. It is only in very recent years that the significance of accurate information on labor conditions to our whole economic structure has been appreciated. It is now understood that labor is

not just a segment of the population, to be studied and reported upon as a separate field of statistical interest, but that labor is an integral part of our social and economic life and its interests are inextricably bound up with the interests of other groups. The analysis of these interrelationships is, of course, beyond the scope of the present volume, but it is believed that the information presented in it constitutes an essential part of the raw material necessary for such an analysis.

Date of Preparation

The material in this Handbook was originally assembled in the summer of 1941. Certain important later material was added in the course of printing, this being particularly the case with the major series of monthly statistical reports, most of which have been brought down to the end of 1941. However, it was impracticable to do this for all of the subjects covered, so that many of the articles must be read in the light of their dates of preparation as shown in the text itself or in footnotes. In general, it has not been possible to incorporate data dealing with conditions arising after the entry of the United States into the war in December 1941.

Apprenticeship and Training

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics; 1941 edition.

3

National Apprenticeship Program ¹

Apprenticeship has always been the acknowledged method of training highly skilled workers. It involves training on the job and on actual production work as distinguished from vocational education which takes place in schools and school workshops. The skilled worker today occupies fully as important a place in industry as ever before, even in mass-production industry, for it is only the all-round trained mechanic who can build machine tools, set them up, keep them in running order, and make necessary repairs.

In part because of the prolonged depression, apprenticeship had fallen into disuse in some trades, and had been neglected in others. As industrial production revived, and particularly when the national defense effort began to gather momentum, an acute shortage of skilled labor became apparent. Through the Federal Committee on Apprenticeship and its field staff—the Apprenticeship Unit of the Division of Labor Standards—Federal agencies, labor, and employers are seeking to remedy this deficiency and to revive the training of apprentices under conditions that will insure both an adequate supply of highly skilled workmen and the maintenance of labor standards in the trades they enter.

Federal Committee on Apprenticeship

The Federal Committee on Apprenticeship is composed of two representatives each of labor and management and one representative each of the United States Department of Labor, the United States Office of Education, and the National Youth Administration. The Labor Department representative is chairman, and the Chief of Apprenticeship, Division of Labor Standards, acts as the Committee's secretary. The Committee ordinarily meets four times a year, to discuss general policies and formulate basic standards, and to recommend methods of coordinating State, local, and trade activities with current needs.

The Federal Committee was first established in connection with the NRA to set up a standard definition of apprentice under the codes. It was continued as an agency for promoting the training of young persons, with NYA funds, and finally in 1937 Congress established it as a permanent agency and allocated funds for the promotion of apprenticeship under proper labor standards, in cooperation with the States, to the Department of Labor.

Apprenticeship Standards

The Committee has approved for Nation-wide distribution a definition of the term "apprentice" and recommended certain basic standards as essential to the all-round development of an apprentice. An apprentice is defined as "a person at least 16 years of age who is covered

¹ Prepared by the Division of Labor Standards of the U. S. Department of Labor.

by a written agreement registered with a State apprenticeship council, providing for not less than 4,000 hours of reasonably continuous employment, and for his participation in an approved schedule of work experience through employment, which should be supplemented by 144 hours per year of related classroom instruction." The agreement must also specify a progressively increasing scale of wages for the apprentice, averaging over the entire period of apprenticeship approximately half the journeyman's rate.

The written agreement includes a statement of the trade or craft being learned, the length of the apprenticeship, and the length of the period of probation—usually from 3 to 6 months—during which the apprenticeship may be terminated by either employer or apprentice. The written agreement definitely fixes responsibility, and is a protection against the "jumping" of apprenticeship. It holds the employer, the foreman, the journeyman, and the apprentice to the purpose of apprenticeship. More than any other device, it is an aid to the completion of the training period within the length of time specified. Apprentices rarely break an agreement, and in plants that have kept records the turn-over of apprentices under agreement has been found to be less than half the turn-over of the regular force.

The apprentice's related classroom instruction includes trade mathematics, trade science, blueprint reading, mechanical drawing, and other related subjects—according to the trade he is learning. He wants to know the history of his trade or industry. He needs an understanding of the present-day economic world, and of the problems that face the citizen of a democracy. Vocational education can usually supply these classes and the public school is the logical place where the related instruction can be given.

Within this general framework of the apprenticeship standards approved by the Federal Committee the details are worked out, trade by trade, by joint committees of employers' and workers' representatives. There are now 647 plans in operation under these joint committees, some of them functioning on a national, some on a State-wide, and some on a local basis. These committees analyze and set up the schedule of processes to be taught, the amount of time to be devoted to each, the subjects for classroom instruction, the number of apprentices and the ratio permitted, the rates of pay, and the scale of periodic increases. They may also arrange for supervision, for appeals, and for continuity of the apprenticeship in case the original employer for some reason beyond his control is unable to provide the guaranteed employment.

Apprentices are recruited through the public employment offices, the schools, and the labor organizations.

National apprenticeship standards have been developed by national committees of employers and labor in the following trades: Steamfitting, plumbing, painting, plastering, electrical construction, and carpentry.

A major trend of the past year has been the growth in the number of approved apprenticeship plans in individual manufacturing establishments from 22 in June 1940 to 419 in October 1941. Many of these plans are being developed by some of the leading firms in the defense industries—shipbuilding, aircraft and machine-tool building.

The total number of approved plans, including both joint trade committee plans and those in industrial establishments, has increased from 521 in June 1940 to 1,066 in October 1941.

Apprenticeship systems reported as conforming to standards recommended by Federal Committee on Apprenticeship, Division of Labor Standards, U. S. Department of Labor, October 1941

	Aug. 1940	Oct. 1941
All systems-----	578	1,066
Building trades:		
General and miscellaneous-----	6	13
Brickmasons, tile workers, etc-----	30	40
Carpenters, millmen, etc-----	73	111
Electrical workers-----	53	66
Iron and steel workers-----	8	12
Painters, etc-----	63	73
Plasterers, lathers, etc-----	22	29
Plumbers, steamfitters, etc-----	108	112
Sheet-metal workers-----	35	40
Metal trades:		
General and miscellaneous-----	4	3
Auto mechanics-----	10	24
Machinists, etc-----	17	23
Molders, patternmakers, etc-----	7	12
General and other trades:		
General and miscellaneous-----	37	24
Bakers, cooks, etc-----	9	14
Barbers, cosmeticians, etc-----	34	36
Printers, etc-----	15	15
Industrial establishments¹-----	47	419

¹ These are single-employer systems, whereas the others cover numerous employers and are often city or even State wide.

In 22 States,² State apprenticeship councils or agencies were functioning on that date, with representation from employers, labor, and departments of labor and vocational education, and with an executive secretary or director in the labor department. In Oregon the agency was independent; in Colorado it was under the department of education. Sixteen States and Hawaii provided for the promotion of apprenticeship systems, by an agency created by law.³ However, not all the States with laws had proceeded to the setting up of a council, and conversely in some States, councils had been created under the general powers of the labor department.

State apprenticeship programs are entirely voluntary. The law merely provides for the establishment of an agency in the State department of labor to assist management and labor in doing the job, and for the necessary appropriation to cover administrative expenses and the salary of a State director of apprenticeship.

The director of apprenticeship promotes sound apprenticeship programs within the State, acts as a clearing house of information, and is available for assistance and technical advice to employers and workers who wish to set up apprenticeship programs or to strengthen those already in existence.

² Arizona, Arkansas, California, Connecticut, Florida, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Minnesota, Nevada, New Hampshire, New Mexico, North Carolina, Ohio, Oregon, Pennsylvania, Vermont, Virginia, Washington, and Wisconsin.

³ Arizona, Arkansas, California, Colorado, Kentucky, Louisiana, Massachusetts, Minnesota, Montana, Nevada, New York, North Carolina, Oregon, Virginia, Washington, and Wisconsin.

The State apprenticeship council is a policy-making body, made up of an equal number of employer and labor representatives, as well as a consultant from each of the public agencies interested in apprenticeship. The State council meets at regular intervals to establish policy, and to formulate and recommend basic minimum standards for the training of apprentices. It is the agency where all apprenticeship agreements in the State can be registered. Through this procedure the apprenticeship council can also furnish reliable statistics on the number of apprentices being trained for the various trades in the State.

Defense Activities

The work and staff of the apprenticeship unit has rapidly expanded to cope with the demands of the defense and lend-lease programs, and has been closely coordinated with the In-Plant Training Division of the Office of Production Management. Apprenticeship field representatives now operate in five regions, with regional offices in Boston, Mass.; Harrisburg, Pa.; Madison, Wis.; Austin, Tex.; and Denver, Colo.

Special efforts are being made to stimulate the training of apprentices in those trades deemed most important to defense—machinists, tool and die makers, molders, shipyard craftsmen, and aviation mechanics. Experts in apprenticeship and in-plant training problems in the fields of machine tools, shipbuilding, and aviation have been appointed to the apprenticeship staff and arrangements made to supply other technical assistance to Federal and private organizations.

The defense emergency, however, is such that additional, more speedy, and more intensive instruction methods must be applied. Enough experienced workers must be trained rapidly to enable defense industries to keep operating at fullest capacity day and night, 7 days a week, and to expand their capacity still further. In addition to apprenticeship, the immediate need for experience and skill must therefore be supplied through "upgrading" and "advancing worker" programs conducted within the plants among the workers employed in those plants.

Briefly, "upgrading" means the progression of workers within a plant from one job to another requiring more skill for the purpose of making the maximum use of their abilities. The jobs in the plant are engineered into a sequence of operations each requiring a greater degree of skill. The workers who show aptitude and are willing to undergo the preparatory training are given the chance to rise from grade to grade. In this way the plant is enabled to make the most effective use of its competent manpower, while the quick learners are given the opportunity to rise in accordance with their abilities.

By this method, also, the skilled and more experienced workers are permitted to devote their entire time and energy to the more exacting tasks, leaving those with lesser aptitude and skill to handle the less complicated jobs. Many skilled workers who have the proper qualifications are also moved into supervisory positions.

The training-within-industry section of the Office of Production Management, staffed almost entirely with training experts from industry who have volunteered their services on a part-time basis, makes

contacts with management, organizes local conferences, and calls upon the apprenticeship field representatives to follow up by assisting with the actual establishment of training programs—including both apprenticeship and upgrading within the plants.

The Federal Committee, in August 1941 adopted standards for training programs at less than apprenticeship level, known as "advancing worker" programs, and the apprenticeship staff is rendering assistance to plants that wish to undertake this type of training. An "advancing worker" is one who is participating in a prescribed training program of work experience through employment, supplemented by related instruction, which fits him for the performance of work in a limited list of job classifications. The standards call for adequate supervision and instruction, including related technical instruction where appropriate, payment of the minimum rate for the job classification during the training period, instead of learners' rates, installing a record system to cover the progress of the worker, and provision for the development of these training programs by cooperative arrangement between employer and employees. Where joint apprenticeship committees exist this committee's participation in the program is deemed essential.



Vocational Education ¹

The Vocational Education Act (Smith-Hughes Act) passed in 1917 provided for cooperation between the Federal Government and the States in the promotion of vocational education in the fields of agriculture, the trades and industries, home economics, and business education. Federal money allotted to the States under the Smith-Hughes Act must be matched at least dollar for dollar. Under the George-Deen Act (1936), on the other hand, States are required to match only 50 percent of the Federal funds allotted to them for the first 5 years, 1937-42, in which the act is operative. Even with the lower matching ratio provided under the later act the States in the fiscal year 1938-39 expended \$1.71 of State and local money for every dollar of Federal money allotted to them under the Smith-Hughes and George-Deen Acts, as compared with \$1.54 the previous year.

During the fiscal year ended June 30, 1939, there were 2,085,427 students enrolled in vocational schools or classes, operated under State plans in the United States, including Alaska, Hawaii, Puerto Rico, and the District of Columbia. This registration represented an increase of 275,345 over the previous fiscal year.² Of the total students enrolled 538,586 were farm youth and adult farmers taking agricultural courses; 715,239 were boys and girls and adult trade and industrial workers taking trade and industrial courses; 741,503 were girls and women following homemaking courses; and 90,099 were boys and girls and adults in training for the distributive occupations. In table 1 the number of students in various types of classes in 1938-39 are shown, as well as the increases in the enrollment of these classes as compared

¹ From Monthly Labor Review for June 1940.

² U. S. Office of Education, Vocational Division. Digest of Annual Reports of State Boards for Vocational Education, fiscal year ended June 30, 1939. Washington, 1940.

with the preceding year. While only 90,099 were reported in business (distributive) education in 1939, this, however, represents an increase of 150.2 percent over 1938, which was the first year in which this particular type of education was given.

TABLE 1.—Enrollment in vocational schools or classes operated under State plans, year ended June 30, 1939

Type of school	Enrollment, 1938-39					Increase from 1937-38 to 1938-39				
	Total	Agricultural	Trade and industrial	Home economics	Business education ¹	Total	Agricultural	Trade and industrial	Home economics	Business education ¹
All types.....	2, 085, 427	538, 586	715, 239	741, 503	90, 099	275, 345	77, 710	29, 435	114, 109	54, 091
Evening.....	657, 603	181, 962	156, 464	236, 034	83, 143	87, 895	23, 149	26, 855	20, 866	50, 735
Part-time.....	486, 551	51, 593	362, 410	65, 592	6, 956	47, 558	8, 693	24, 128	11, 381	3, 356
All-day.....	941, 273	305, 031	196, 365	439, 877	.....	139, 892	45, 868	12, 162	81, 862	.....

¹ Distributive occupations.

² Decrease.

Table 2 shows the total enrollments in vocational schools and classes under State plans, by years, from 1929 to 1939. Except for the years 1933 and 1934 substantial increases are shown, the expansion for 1938 and 1939 being, respectively, 313,245 and 275,345, the highest records for the period here reported.

TABLE 2.—Enrollment in vocational schools operated under State plans, by years, 1929-39

Year	Total		Agricultural	Trade and industrial	Home economics	Business education (distributive occupations)
	Number	Increase				
1939 ¹	2, 085, 427	275, 345	538, 586	715, 239	741, 503	90, 099
1938.....	1, 810, 082	313, 245	460, 876	685, 504	627, 394	36, 008
1937.....	1, 496, 837	115, 136	394, 400	606, 212	496, 225	.....
1936.....	1, 381, 701	134, 178	347, 728	579, 971	484, 002	.....
1935.....	1, 247, 523	128, 383	329, 367	596, 932	381, 224	.....
1934.....	1, 119, 140	² 31, 187	289, 361	486, 058	343, 721	.....
1933.....	1, 150, 327	² 25, 835	265, 978	537, 512	346, 837	.....
1932.....	1, 176, 162	58, 606	257, 255	579, 591	339, 316	.....
1931.....	1, 117, 556	53, 020	237, 200	602, 755	277, 601	.....
1930.....	1, 064, 536	16, 560	193, 325	633, 153	258, 058	.....
1929.....	1, 047, 976	48, 945	171, 466	627, 397	249, 113	.....

¹ Provisional figures.

² Decrease. The decreases for 1933 and 1934 should be considered in connection with the decreases in Federal funds available in these years. A reduction in 1933 of 8 percent in these funds, and a further reduction in 1934 of 10 percent, as compared with the previous years, largely account for the decrease in enrollments of less than 3 percent for each of these years.

Federal expenditures in 1939 for vocational education under State plans totaled \$19,433,394 as compared with \$17,737,118 for the year 1938. Expenditures from State and local funds for 1939 amounted to \$33,232,777 as against \$27,257,419 for the preceding 12 months as reported in table 3.

TABLE 3.—Expenditures of Federal, State, and local money under State plans for vocational education, by years, 1929-39

Year	Expenditure		Increase or decrease in expenditure	
	From Federal funds	From State and local funds	From Federal funds	From State and local funds
1939 ¹	\$19,433,394	\$33,232,777	+\$1,696,276	+\$5,975,358
1938.....	17,737,118	27,257,419	+7,723,449	+871,803
1937.....	10,013,669	26,385,616	+264,744	+2,706,707
1936.....	9,748,925	23,678,909	+376,945	+3,760,966
1935.....	9,371,980	19,917,943	+2,421,035	-1,319,529
1934.....	6,950,945	21,237,472	-777,300	-1,161,171
1933.....	7,728,245	22,398,643	-686,589	-2,588,926
1932.....	8,414,834	24,987,569	+436,105	+823,106
1931.....	7,978,729	24,164,463	+574,506	+1,659,787
1930.....	7,404,223	22,504,676	+525,693	+1,908,900
1929.....	6,878,530	20,595,776	+47,078	+1,701,467

¹ Provisional figures.

State Trends in Curriculum Development

Among the general trends in curriculum development in vocational education is that toward the cooperative development of curriculum materials. Continued cooperation was reported between teachers of vocational agriculture and the Soil Conservation Service, the Rural Electrification Administration, and like agencies to develop subject-matter and course-of-study materials which will be helpful to vocational agricultural students.

Another major trend—the outcome of new economic and social factors—is that toward the upgrading of various forms of vocational education. Ever-increasing attention was being given to the development of vocational courses on the post-high-school, junior-college, or technical-institute level.

Under the direction of State specialists, instructional plans for various short-unit extension courses were being worked out.

The problem of the responsibility of the schools for the occupational adjustment of all young persons is being more and more seriously studied by vocational educators.

In developing curricula the States are recognizing the principle that course-of-study material must be appraised on its functional or use value.

The cooperative planning of home projects by teachers and pupils in home-economics courses exemplifies another principle being followed in curriculum development.

Among the curriculum-building problems which are now being studied or which should be the subject of continued research are the following:

1. Are there occupational skills, basic to a number of occupations, which may be learned and to some extent generalized?
2. What are the appropriate materials of instruction in the area of occupational adjustment for the slow-learning or nonacademically minded pupil?
3. What can be done to vivify and functionalize the teaching of English and social studies in vocational schools and courses?

4. How may related subject materials be kept continuously related to the actual needs of the occupation?

5. What are the relative merits of so-called "technical courses" as compared with "vocational courses" in the development of occupational intelligence and skill?

6. How can the educational experiences of evening-extension students be organized in a progressive sequence?

7. How can diversified curriculum offerings which will assure greater equality of vocational-educational opportunity be set up to serve small-town and rural areas?

8. What is the optimum arrangement for the guidance and counseling of students in the selection of a personal vocational objective?

9. To what extent should industrial and practical arts subjects be made the core of the curriculum for all students who are not college bound?

10. How can the needs of the evening-extension teacher for course outlines be most effectively met?

11. What are the comparative values in courses for teachers in the various fields of vocational education, of general education in the socio-civic area, and of special courses in educational methods?

12. To what extent are courses whose controlling purpose is to prepare for useful employment, effective in developing problem-solving ability or the scientific habit of thinking?



Vocational Rehabilitation

The number of rehabilitations of disabled persons reported by the Vocational Rehabilitation Division in Washington, D. C., for 1939-40 was 11,890 as compared with 10,747 in the preceding year, representing a gain of 10.6 percent.¹ The increase during the past decade has been as follows:

1931-----	5,184	1936-----	10,338
1932-----	5,592	1937-----	11,091
1933-----	5,613	1938-----	9,884
1934-----	5,062	1939-----	10,747
1935-----	9,422	1940-----	11,890

Total expenditures for rehabilitation amounted to \$4,107,805, an increase of \$116,141 over 1939 and \$245,642 over 1938. The average cost per case was \$345, as compared with \$371 in 1939 and \$392 in 1938.

Of the persons rehabilitated, 75.7 percent were given training. The proportion retrained has risen steadily since 1934 when only 50 percent of the rehabilitants received training. Increased attention was given to the retraining of younger persons and those with better education rather than to older men injured in industry. In 1940, 25.8 percent of the rehabilitants were females as compared with 21.7 percent in 1937, and 67.1 percent were unmarried as compared with 62.7 percent in 1937. On the other hand, 37.7 percent had less than 10 grades education in 1940 while 45.4 percent were in this classification in 1937, and 17.8 percent were employment accident cases as compared with 21.7 percent in 1937.

¹ Vocational Rehabilitation in 1939-40; a Statistical Analysis. By Robert E. Thomas, Special Agent, Vocational Rehabilitation Division, Washington, D. C. (In *National Rehabilitation News*, Chicago, April 1941.)

The decreased emphasis on industrial cases is shown in the following table giving the types of disabilities of the persons receiving retraining in the past 4 years.

TABLE 1.—Percentage distribution of rehabilitants by type of disability, 1937 to 1940

Disability	Percent of rehabilitants with specified disability			
	1937	1938	1939	1940
Amputation.....	30.6	29.2	24.5	20.5
Orthopedic disablement.....	44.0	44.2	46.8	48.3
Vision.....	6.1	6.5	6.5	7.6
Hearing.....	7.7	8.5	9.2	9.4
Tuberculosis.....	5.3	6.4	6.8	7.7
Cardiac.....	1.9	1.5	2.2	2.7
Other.....	4.4	3.7	4.0	4.0
Total.....	100.0	100.0	100.0	100.0

The percentage of persons rehabilitated through "appliance only" decreased steadily during the past 4 years, or from 22 percent in 1937 to 9.7 percent in 1940.

There was a total of 47,174 live-roll cases reported by the States on June 30, 1940, an increase of 1 percent over the number reported at the end of 1939. The classification of cases on June 30, 1940, was as shown in table 2.

TABLE 2.—Status of cases on the live roll, June 1940

Status	Number	Percent
Interviewed.....	15,174	32.2
Plan completed.....	2,690	5.7
Medical or surgical treatment.....	469	1.0
Appliance authorized.....	745	1.6
School training.....	11,040	23.4
Employment training.....	2,313	4.9
Other training.....	1,292	2.7
Ready for employment—prepared.....	5,451	11.5
Ready for employment—placement only.....	1,119	2.4
In employment, temporary.....	1,399	3.0
In rehabilitation employment.....	1,952	4.1
Training interrupted.....	3,250	6.9
Other service interrupted.....	280	.6
Total.....	47,174	100.0



Progress of Indian Arts and Crafts¹

In order to promote a more profitable development of native skills, by an act of Congress the Indian Arts and Crafts Board was created in the United States Department of the Interior in 1936, to educate Indian craftsmen in modern commercial methods, to expand the market for Indian goods, and to protect both the consumer and the

¹ From Monthly Labor Review for April 1941.

Indian craftsmen from cheap imitated articles. The following account of activities under this legislation is taken from the annual report of the Secretary of the Interior, for the fiscal year ended June 30, 1940.

Although the Indian craftsman's individualism has been his chief asset in production, it has been his liability in selling his wares. Original design and execution constitute the charm of Indian arts and handicraft. In marketing his products, however, the lone craftsman has great difficulty in competing with the well-organized sales associations throughout the United States.

One of the main functions of the Arts and Crafts Board has been to instruct the Indians in the methods of modern commercial distribution without commercializing their work.

Preparatory to making specific recommendations to the different tribes as to the best utilization of their handicraft talents, it was necessary for the Board to survey every kind of craft work being done among the Indian tribes in the States and by the natives of Alaska. It was necessary to ascertain whether or not Indian handiwork could be sold in its traditional form or whether it would have to be modified to meet the demands of buyers.

A summary of the data secured in these investigations, published in 1940,² reviews North American Indian art from pre-Columbian days and also surveys recent accomplishments.

The next consideration was the commercial market. In the spring of 1940, efforts were made to get the reaction of manufacturers and merchandising experts concerning possible demand for high-class Indian products as practical merchandise.

Articles shown included Choctaw and Cherokee fabrics, Navajo silver, moccasins, and belts from the Plains Indians, ribbon work from the Oklahoma tribes, and braided sashes from the Eastern Woodlands. The reactions of the merchandising experts were highly favorable and brought immediate orders, in spite of the fact that such orders were not solicited.

Since the volume of quality Indian products in all regions is still too small and too unstable to meet the large demands of most organized business houses, the Board could only carry back to the tribes the results of this inquiry as concrete proof of the existence of a demand and as a means of encouraging local agencies in their efforts to organize quality production.

Plans were laid during the fiscal year under review for the formation of marketing organizations among the Navajo, Pueblo, and Seminole Indians. The Board also assisted in the establishment of a Community Arts and Crafts Center at Sells, Ariz., for the Papagos in southwestern Arizona. By the utilization of tribal moneys and rehabilitation funds of the Indian Service, a building was erected for displaying and marketing art products and handicrafts. A field worker has been assigned to the Papago region, and handicraft production has been undertaken, according to standards which the Board has approved.

The Board has also promoted the demand for Indian goods. Not only through the sponsorship of publications on Indian arts but also through the exhibition of authentic Indian articles and the demonstrations of Indian techniques by the Indians themselves, the Board has opened up a rapidly growing market for Indian products.

At the Golden Gate International Exposition the largest exhibit of Indian arts and crafts ever assembled was presented by the Board.

² Valliant, George C. *Indian Arts in North America*. New York, Harper & Brother, 1940.

This exhibit was made practicable through the aid of the United States Commission of the Fair, foundations, and private individuals. Included in the exhibit were the products of Alaskan culture areas and of the seven major Indian cultures of the United States (the Eastern Woodsmen, the tribes of the Plains, the fishermen of the Northwest, the California seed gatherers, the Navajo shepherds, the Pueblo farmers, and the tribes of the Arizona desert).

"The simplicity of line, strength of form, and absence of all extraneous matter in the two model Indian-decorated rooms at the San Francisco Exposition blended so naturally as an effective interior motif for modern homes that the Board was asked to prepare a similar exhibit for the Museum of Modern Art, New York City. Files of specimens and photographs have already been assembled and work undertaken on many reservations." The exhibit was opened in 1941.

Furthermore, the Board has conducted its program of protecting buyers from spurious products by issuing die-stamps or certificates of genuineness for all articles made under conditions which that agency approves. The Government's seal of protection can be used only for Indian products made under conditions unlike those of a factory system or workshop. In illustration, a Navajo rug has a label on a loose wire sealed against tampering. This label states that the rug was woven on hand looms from hand-carded wool. Silver jewelry from the Navajo and Pueblo region is die-stamped to indicate the name of the tribe responsible for hammering and making the hand-wrought article from slug silver.

During 1939-40 the Arts and Crafts Board had in preparation a trade-mark system for quality products in the other less-advanced branches of Indian crafts.

The sale of craft products provides an additional source of income for Indians, which, according to a rough estimate, amounts to approximately \$1,000,000 per annum. As the program progresses, it is anticipated that the remuneration of Indians from these arts and crafts will increase greatly within the next few years.

Child Labor

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Note

Except as otherwise indicated all the articles in this section were prepared by the Children's Bureau of the United States Department of Labor. See also *Surveys of Industrial Home Work* (p. 445), and *Junior-Placement Services* (p. 157).

Child-Labor Provisions of the Fair Labor Standards Act

Administration of the Child-Labor Standards of the Act

The Fair Labor Standards Act of 1938, which became effective on October 24, 1938, marked a significant advance in labor standards for both children and adults. By closing the channels of interstate commerce to employers failing to comply with its provisions as to wages, hours of labor, and employment of children, it in effect required interstate industries to adopt those standards. The decision of the Supreme Court of the United States on February 3, 1941, upholding the constitutionality of this act and expressly overruling the case of *Hammer v. Dagenhart*, which in 1918 had held unconstitutional the first Federal child-labor law, removed all doubt as to the validity of child-labor regulation based on the grant of power to Congress to regulate interstate commerce.

The child-labor provisions of the act are administered by the Children's Bureau of the United States Department of Labor; the wage and hour provisions, which apply to minors and adults alike, are administered by the Wage and Hour Division of the Department of Labor.

The act in effect establishes a basic 16-year minimum age for employment in industries producing goods shipped in interstate or foreign commerce. For employment of minors within 2 years below and 2 years above this age, certain legislative policies are set up, which are to be put into operation through determinations made by the Children's Bureau. The younger group, children of 14 and 15 years, may be permitted such limited employment in nonmanufacturing and nonmining occupations outside of school hours as is performed under conditions that do not interfere with their schooling, health, or well-being; the conditions of such employment, including the occupations prohibited, are to be determined by the Bureau. As to minors of 16 and 17 years, the act recognizes that young workers of these ages should be protected from employment particularly hazardous for them or detrimental to their health or well-being, and power is given to the Chief of the Children's Bureau to find and declare the occupations that fall in this category.¹ Goods produced in establishments situated in the United States in or about which, within 30 days prior to the removal of such goods, children have been employed contrary to these standards are prohibited from shipment across State lines or to any foreign country, the prohibition applying to producers, manufacturers, and dealers who ship such goods or deliver them for shipment.

Exempted from these child-labor provisions are children under 16 years of age working for their parents in nonmanufacturing and nonmining occupations, children employed in agriculture while they are

¹ For a description of the activities of the Children's Bureau in the administration of this provision of the act, see p. 21.

not legally required to attend school, and child actors in motion pictures or theatrical productions.

Responsibility for administering the child-labor provisions was assigned by the Children's Bureau to its industrial division, which for many years had been making child-labor studies, developing current reports from States and localities showing child-labor trends, and giving widespread consultative and advisory service on problems relating to the employment of minors. With this background of experience, the plans of the division for administering the law have been directed not only toward Nation-wide compliance with the Federal provisions but also toward making the necessary administrative processes support State child-labor standards and aid in developing the best possible methods for making those standards effective.

The enforcement program has a threefold aspect: First, preventive—making available for employers a reliable method of obtaining proof of the ages of their minor employees; second, fact finding and standard setting—through the determination, on the basis of research, consultation, and hearings, of standards for protecting workers 16 and 17 years of age from hazardous occupations² and for authorizing the employment of children 14 and 15 years of age in occupations that will not interfere with their schooling or with their health or well-being;³ and third, educational and punitive—through acquainting employers with the standards with which they should comply and the methods offered for their protection, and through the discovery and correction of violations of those standards by inspecting places of employment and by legal action when necessary.

On the theory that the administration of the Federal provisions should not be a new and independent effort to control child labor by the establishment of Federal machinery duplicating and possibly conflicting with State administrative functions, cooperative plans have been worked out with State officials for the acceptance of State employment or age certificates, required under most State laws for children going to work, as proof of age under the Federal act. The act provided a basis for this procedure, first by authorizing the Bureau to utilize, with their consent and cooperation, the services of State and local agencies charged with the administration of State child-labor laws, and, second, by providing that a certificate of age issued under certain conditions and kept on file by the employer, showing the minor to be above the oppressive child-labor age, is evidence that the employer is complying with the minimum-age requirement. Standards were set up by the Bureau for the issuance of such certificates, and agreements have been made with State agencies, usually the State department of labor or of education, for making certificates available for the purposes of the Federal act. As a result of these agreements, and with the assistance of Bureau representatives, important advances have been made in the State procedures heretofore used, particularly in the degree of State supervision of local issuance by a State agency and in the extension of existing State certificate systems. State age or employment certificates are now accepted as evidence of age under the Federal act in 44 States, the District of

² See p. 21.

³ These standards are set forth in *Employment of Minors Between 14 and 16 Years of Age, Child-Labor Regulations, Regulation No. 3* [29 Code of Federal Regulations, 1939 supp., pt. 441].

Columbia, and the Territories of Hawaii and Puerto Rico.¹ Because no State certificate-issuing systems as yet exist in Idaho, South Carolina, Mississippi, and Texas, Federal certificates are being issued in these four States, with the assistance and close cooperation of State and local officials.

In coordination with this preventive program, the Bureau carries on certain inspection activities with respect to the child-labor aspects of the act. To avoid duplication of inspections, this program is carried on in close cooperation with the Wage and Hour Division. The Children's Bureau, however, has special responsibility for the inspection of establishments where problems of child labor are particularly acute or where the coverage of the wage and hour provisions is limited. In connection with all wage and hour investigations, inspectors of the Wage and Hour Division inspect for violation of the child-labor provisions; Children's Bureau inspectors report to the Wage and Hour Division cases of apparent violation of the wage and hour provisions observed in establishments where they make inspections. In order to develop these cooperative activities more effectively and to provide direct consultation on child-labor aspects of administrative problems arising under the act, representatives of the Children's Bureau have been assigned to give consultant service to the regional staff of the Wage and Hour Division.

In dealing with violations, the act provides for injunction proceedings in civil cases and for criminal prosecutions. It has been the policy of the Bureau to bring about voluntary compliance, where possible, through consultation and warning letters rather than to resort to court action. Legal action, however, has been successfully brought in a number of cases of flagrant or repeated violation.

Determination of Hazardous Occupations

The Fair Labor Standards Act of 1938, although in effect establishing a basic minimum age of 16 years for employment in all industries subject to its child-labor provisions, recognizes the social waste of allowing young persons to engage in dangerous work and sets up machinery for establishing a minimum age of 18 years for employment in hazardous occupations. This is done by giving to the Chief of the Children's Bureau the power to find and, by order, declare occupations to be particularly hazardous for the employment of minors between 16 and 18 years of age or detrimental to their health or well-being; after such a determination has been made and an order issued, an 18-year minimum age is in effect in the particular occupations covered by that order.²

Faced with the need for making factual determinations in a field where uniform standards and criteria for research methods had not been established to any considerable extent, the Industrial Division of the Children's Bureau, to which the administration of these provisions has been entrusted, has attempted to develop research methods especially suited to making the determinations of fact that are necessary for giving effect to the policy of the act. The framework

¹ In the one remaining Territory, Alaska, a survey is under way which will give information basic to the setting up of a certification system there.

² The act provides that if any State or Federal law or municipal ordinance establishes a standard higher than that established under the act, the higher standard shall prevail.

for its procedure was outlined in the Bureau's Regulation No. 5: Procedure Governing Determinations of Hazardous Occupations, and, as investigations and findings in several fields have progressed, the research procedures especially suited to making determinations of fact with respect to hazardous occupations have been more fully developed. In its program the Industrial Division has been guided by certain principles formulated with the advice of an Advisory Committee on Occupations Hazardous for Minors. This committee, composed of experts in industrial health and safety, employer and labor representatives, and other persons concerned with the welfare of young workers, also has given valuable advice to the Children's Bureau on matters of policy.

The basic principles adopted are: (1) That occupations particularly hazardous or detrimental to the health or well-being of workers in general are also particularly hazardous or detrimental to the health or well-being of minors under 18 years of age, and (2) that other occupations, not particularly hazardous or detrimental to the health or well-being of adult and experienced workers, may nevertheless be particularly hazardous for minors under 18 because they require a degree of muscular coordination, stability, maturity of judgment, or resourcefulness in meeting emergencies not usually characteristic of young workers, or because they tend to inhibit or injure the growth or development of these workers.³

Research Methods and Procedures

The research methods and the procedures followed in making determinations of hazardous occupations may be classed under three headings: (1) Investigation, (2) consultation, and (3) provision of opportunity for objection and review.

Investigation.—The Industrial Division's work of investigation follows several lines. Material on the nature and degree of the hazards of work in the occupations being studied is obtained by visits to numerous plants and actual observations of processes carried on. Full information on the hazards of these occupations is obtained from managers, technicians, and safety engineers employed by these plants. Statistical data on industrial injuries are compiled from figures published by or obtained from State agencies administering workmen's compensation laws, from industrial-injury surveys made by the United States Bureau of Labor Statistics, from studies made by other governmental or private safety organizations, and from the industrial-injury records of plants of the type being studied. The provisions of State laws and regulations restricting the employment of minors in the occupations being investigated are reviewed. The results of these investigations are embodied in a report, and a proposed finding and order based on the findings of the report is prepared.

Consultation.—In carrying on these investigations and in formulating these orders, the Industrial Division consults frequently with representatives of employers, of labor groups, of State labor departments and industrial-accident commissions, with safety engineers, and

³For a full statement of the general principles formulated by this committee see *The Child*, November 1939 (U. S. Children's Bureau, Washington), p. 136. A list of members of this committee appeared in *The Child*, February 1939, p. 177.

with State and Federal agencies. The division not only seeks technical assistance from these persons but welcomes their advice regarding the investigation and the content and wording of an order.

In the course of the investigation the Industrial Division usually organizes and consults with a technical advisory committee, composed of persons with intimate knowledge of the particular industry and its hazards or concerned with employment problems of young workers. This committee is asked to make suggestions, corrections, or additions to a preliminary draft of the report of investigation submitted to it and to give its reactions to a tentative draft of the order.

Provision of opportunity for objection and review.—After the report of investigation and the proposed order have been issued, opportunity for reviewing them and for making suggestions and objections regarding the proposed order is afforded interested persons or organizations by widespread distribution of the proposed order with a notice of the public hearing. Interested parties unable to appear in person may file briefs.

Orders Now in Effect

At present (August 1, 1941) five groups of occupations are dealt with by hazardous-occupation orders: (1) Occupations in or about plants manufacturing explosives or articles containing explosive components, (2) the occupations of driver or helper on motor vehicles, (3) coal-mine occupations, (4) logging and sawmilling occupations, and (5) occupations involved in the operation of power-driven woodworking machines.⁴ The effect of these orders is to fix a minimum age of 18 years for employment in the occupations covered.⁵

The explosives industry.—The explosives industry, which was the first industry selected for study by the Bureau because of its widely recognized hazards, was found to be one that is hazardous in nature despite progress in the promotion of safe working conditions and that is especially hazardous for young workers, who are characteristically lacking in the exercise of caution, a quality essential for work in explosives plants. The order issued applies to "all occupations in or about any plant manufacturing explosives or articles containing explosive components" and defines the terms "plant manufacturing explosives or articles containing explosive components," "explosives," and "articles containing explosive components."⁶

Motor-vehicle drivers and helpers.—The employment of minors as drivers of motor vehicles and helpers on such vehicles was the second field for consideration under this program. The investigation revealed that not only does work on motor vehicles involve a high degree of accident risk for persons of all ages, but also that motor-vehicle drivers between 16 and 18 years of age have been found to be involved in a larger number of fatal accidents in proportion to miles driven than drivers in any older age group. Also, a minimum age of 18 years

⁴The reports of investigations, prepared by the U. S. Children's Bureau, on which these orders are based are: Occupational Hazards to Young Workers; Report No. 1.—The Explosives-Manufacturing Industries, Pub. No. 273; Report No. 2.—Motor-Vehicle Drivers and Helpers, Pub. No. 274; Report No. 3.—The Coal-Mining Industry, Pub. No. 275; Report No. 4.—The Logging and Sawmilling Industries, Pub. No. 276; Report No. 5.—Woodworking Machines, Pub. No. 277. Washington, 1941.

⁵The act provides that if any State or Federal law or municipal ordinance establishes a standard higher than that established under the act, the higher standard shall prevail.

⁶U. S. Children's Bureau, Child-Labor Regulations, Order No. 1 (hazardous occupations), 4 Federal Register 2079.

or higher for the employment of motor-vehicle drivers and helpers has been adopted voluntarily as a general policy by many employers and by the branch of organized labor especially concerned with employment in this field. The order covers the occupations of both driver and helper and defines the terms "motor vehicle," "driver," and "helper."⁷

Coal-mine occupations.—The coal-mine investigation showed that most occupations in or about mines are particularly hazardous for the employment of minors 16 and 17 years of age. Although it was found that, in general, work in or about anthracite and bituminous-coal mines involves an exceptionally high degree of accident risk in comparison not only with manufacturing as a whole but also with most other industries for which adequate injury statistics are available, the report indicated that certain surface occupations involve a lesser degree of hazard than underground work. As a result, the order applies to all occupations in or about coal mines except certain specified surface occupations (slate or other refuse picking at a picking table or picking chute in a tippie or breaker) and occupations requiring the performance of duties solely in offices or in repair or maintenance shops located on the surface.⁸

Logging and sawmilling occupations.—Investigation of employment in the logging and sawmilling industries clearly demonstrated the extra-hazardous character of all but a few logging and sawmilling occupations. The study showed that the industrial-injury rates for these industries are among the highest of all industries for which adequate statistics are available. Furthermore, the hazards of these industries were found to be common to most logging occupations and to practically all occupations in sawmilling plants. Accordingly, an order was issued, effective August 1, 1941, which has the effect of establishing an 18-year minimum age for such employment.

The logging and sawmilling order classes as particularly hazardous "all occupations in logging and all occupations in the operation of any sawmill, lath mill, shingle mill, or cooperage-stock mill," with the exceptions listed below. As defined in the order, the term "all occupations in logging" does not include work where pulpwood only is logged or work performed in timber culture, timber-stand improvement, or emergency fire-fighting. Similarly, work performed in the planing-mill department or other manufacturing departments of any sawmill does not come within the scope of the order. The following are excepted from the terms of the order: (1) Work in offices or in repair or maintenance shops, (2) work in the operation or maintenance of living quarters, (3) work in timber-cruising, surveying, or logging-engineering parties, provided that no work in the construction of roads or railroads is performed, (4) work in forest protection, and (5) work in the feeding or care of animals used in logging.⁹

Power-driven woodworking machine occupations.—The hazards of woodworking-machine employment were studied simultaneously with those of logging and sawmilling. Evidence of the especially hazardous nature of many occupations involved in the operation of

⁷ U. S. Children's Bureau, Child-Labor Regulations, Order No. 2 (hazardous occupations), 4 Federal Register 4726.

⁸ U. S. Children's Bureau, Child-Labor Regulations, Order No. 3 (hazardous occupations), 5 Federal Register 2722.

⁹ U. S. Children's Bureau, Child-Labor Regulations and Orders, Hazardous Occupation Order No. 4, 6 Federal Register 3148.

power-driven woodworking machines is presented in a report which has recently been completed and on which the order was based. The conclusions of the report, which are summarized below, illustrate the nature of the material surveyed and the conclusions presented in the various hazardous-occupation studies of the Division.

It was found that considerable numbers of young workers are employed in power-driven woodworking-machine occupations and that these machines are the cause of a large number of industrial injuries. Such injuries are likely to be especially severe, often resulting in amputations or other permanent partial disabilities. For instance, in Massachusetts during a 5-year period, 18.5 percent of the injuries due to woodworking machines resulted in permanent partial disability, whereas only 3.8 percent of the injuries from all causes in the manufacturing industries resulted in this type of disability. The sharp cutting edges combined with high operating speeds and the fact that operators and most off-bearers must work in close proximity to moving parts make work on these machines extremely hazardous. Mechanical guarding cannot be relied upon to protect workers from woodworking-machine hazards. State laws vary widely in their requirements for guards. Moreover, some guards cannot be used consistently or continually. It was concluded that workers engaged in helping operators to feed materials into woodworking machines and those engaged in setting up, adjusting, repairing, oiling, or cleaning power-driven machines have jobs very nearly as hazardous as those who operate these machines. Off-bearing directly from saw tables of circular saws or directly from the point of operation of guillotine-action veneer clippers was also found to be particularly hazardous.

Woodworking-machine occupations, moreover, are especially hazardous for workers under 18 years because the attributes of experience, judgment, capacity for concentration, and caution, essential to the safety of workers in these occupations, have not been fully developed in young workers. Minimum-age standards for employment of young workers imposed by State laws, those voluntarily maintained by employers, and those adopted by NRA code authorities constitute recognition of the extremely hazardous nature of woodworking-machine employments for young workers.

The power-driven woodworking-machine order declares the following occupations involved in the operation of power-driven woodworking machines to be particularly hazardous: Operating power-driven woodworking machines; setting up, adjusting, repairing, oiling, or cleaning such machines; and off-bearing from circular saws and guillotine-action veneer clippers where such off-bearing is done directly from a saw table or from the point of operation. It includes definitions of the terms "power-driven woodworking machines" and "off-bearing."¹⁰

The hazards of shipbuilding occupations and employment on metal-working machines are the subject of investigations now being conducted by the Children's Bureau, and a program for developing orders dealing with industrial health hazards is under way.

¹⁰ U. S. Children's Bureau, *Child-Labor Regulations and Orders, Hazardous Occupation Order No. 5*, 6 Federal Register 3149.

Trend of Child Labor ¹

Throughout the decade since 1930 the general trend of child labor has followed that of industrial employment, except where the influence of legal regulation of the employment of children under Federal or State laws has been powerful enough to bring about a reversal of that trend. This is indicated by reports of employment certificates issued for children going to work which have been obtained by the United States Children's Bureau annually, and in recent years monthly, from an increasing number of States and cities.² An annual compilation and evaluation of this information by the Children's Bureau has been made possible by the generous cooperation of State and city officials.

It must be kept in mind, however, in evaluating the significance of these reports, that they do not show the number of children actually employed at any one time but are indicative only of the stream entering industry each year; that is, they show the number entering employment for the first time in occupations for which employment certificates are required. Children who enter occupations for which certificates commonly are not required, such as agricultural pursuits,³ domestic service, and street trades, are of course not included. These reports, moreover, show only the number going to work legally; they give no indication of the number employed without the certificate required by law. Everywhere the value of the employment-certificate reports is dependent upon the careful and consistent attention of issuing officers, many of whom are overburdened with other duties. In spite of these limitations, however, the figures do indicate the trend in the number of children going to work in gainful employment, especially in urban areas, and may fairly be considered a Nation-wide index of the employment of young workers.

Factors Influencing Employment of Children

Many factors are responsible for changes in the extent to which children are employed, the most important being State and Federal child-labor legislation, public opinion (which is reflected in child-labor legislation), and employment opportunities. Although the volume of child labor has tended to rise and fall with industrial employment where restrictive legislation was not in effect, there has

¹ For fuller information see Serial No. R. 677, reprinted from the Monthly Labor Review for December 1937, and Serial No. R. 1058, reprinted from the Monthly Labor Review January 1940, with supplementary material.

² These reports are collected as a joint project of the Industrial Division and the Division of Statistical Research of the Children's Bureau. At the end of 1936 the reporting area included 58 percent of the total population of the United States, reports in that year being submitted for 14- and 15-year-old children from 17 States and the District of Columbia, and from 82 cities of 25,000 to 50,000 population and 108 cities of 50,000 or more population in 23 other States. Reports of 16- and 17-year-old children were being received from 3 States and the District of Columbia, and from 51 cities of 25,000 to 50,000 population and 82 cities of 50,000 or more population in 11 other States. At the end of 1938 the Bureau was receiving data from areas including almost 60 percent of the total population of the United States, reports being submitted in 1938 for more than 7,000 children 14 and 15 years of age going to work and for more than 75,000 young workers of 16 and 17 years.

³ According to the United States census of 1930, 70 percent of the children under 16 years of age gainfully employed and 34 percent of those 16 and 17 years of age were in agricultural pursuits.

been a net decrease since 1920 in employment of children between 14 to 18 years of age, despite an increase in this age group of the population.

For some years the conviction has been growing in the minds of the public that it is socially wasteful to allow children under 16 years of age to leave school for work. A generation ago, 14 rather than 16 years was the generally accepted minimum age for the entrance of children into industry. In 1919, however, and again in 1930 and 1940, public opinion, crystallizing in the recommendations of the White House Conferences of those years, spoke for a basic minimum age of 16 in State child-labor laws. Scarcity of employment opportunities during the depression, and an increasing realization of the need for better-trained citizenry to meet the complex social problems of the present day, have undoubtedly influenced the tendency to outlaw through State legislation the employment of children under 16 in industrial work.

The increasing number of children attending school beyond the elementary grades indicates a change in social custom that has undoubtedly decreased the number of children entering employment. In 1920 only 32 percent of the population 14 to 17 years of age, inclusive, were enrolled in secondary schools, compared with 67 percent in 1936. Enrollment in secondary schools increased from 2,494,676 children in 1920 to 4,799,867 in 1930, or 92 percent. In 1936, the latest year for which figures are available, the enrollment was 6,424,968, an increase of 34 percent over 1930.⁴

Legislation has also been a factor in reducing the number of children entering employment. In 1930 only Montana and Ohio had a basic minimum age of 16 years for employment. Between 1930 and 1938 eight additional States⁵ established this minimum. These eight States, where in 1938 (because of this legislative advance) very few children under 16 were permitted by law to leave school for work, in 1930 had accounted for 34 percent of the children under 16 years of age engaged in nonagricultural pursuits and 46 percent of those working in manufacturing and mechanical industries. An advance for the whole country was made in 1938, when the Fair Labor Standards Act was passed by Congress. The child-labor provisions of this act established a basic 16-year minimum age, applicable without regard to State laws, for employment in manufacturing, mining, and other industries producing goods for shipment in interstate commerce.⁶

⁴U. S. Office of Education Bulletin No. 2 (1937): Statistical Summary of Education, 1935-36 (being ch. I of vol. 1 of the Biennial Survey of Education in the United States, 1934-36), table 9, p. 12. Washington, 1939. Estimated population figures and enrollment figures are used for 1936.

⁵Connecticut, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Utah, and Wisconsin. In 1939 two more States, Massachusetts and West Virginia, in 1940 one additional State, New Jersey, and in 1941 still another State, Florida, were added to this list.

⁶Act of June 25, 1938, Public No. 718 (75th Cong., 3d sess.), ch. 676. The act was passed June 25, 1938, but did not go into effect until October 24 of that year. Thus, the first 6 months of 1939 represented the first continuous half year during which a Federal minimum-age standard was in effect since May 1935, when the codes under the National Industrial Recovery Administration were declared invalid. These codes were effective throughout an industry without regard to State lines, establishing, through the 16-year minimum age for employment, child-labor standards which were higher than any previously in effect in the country as a whole. The code-making power under the act was declared unconstitutional in the *Schechter* case (*Schechter v. United States*, 55 Sup. Ct. 837) on May 27, 1935.

Variations in employment opportunities have also influenced the fluctuations in the numbers of children going to work. Although there has been a net decrease since 1920 in employment of children, the employment both of children 14 and 15 and of those 16 and 17 years of age has usually risen and fallen somewhat from year to year with the trend of general employment. The only exceptions have been for the younger group, and these have occurred in States where the basic minimum age for employment has been raised to 16 by State law and in the country as a whole when Nation-wide restrictive legislation has drastically narrowed opportunities for employment of children under 16. This is indicated in the accompanying table, which compares from 1929 to 1938 the index numbers for first regular employment certificates⁷ issued in areas where the legal minimum age under State law was not raised to 16 with the index of employment in nonagricultural industries.⁸ For young workers between 16 and 18 years of age the index of employment certification followed roughly the ups and downs of general employment, but for those between 14 and 16 this tendency was interrupted in 1933 and 1934 when a 16-year minimum under the NRA codes was in effect practically on a Nation-wide basis.⁹ Removal of the code restrictions in 1935 was followed in 1936 by an upward swing for employment of this younger group which continued until it was checked by the drop in employment opportunities that began in the last 6 months of 1937 and continued into 1938.

⁷ The index number for the number of first regular employment certificates issued for children going to work for the first time is used as a rough index of employment of children of these ages.

⁸ The computed index of total nonagricultural employment in the United States, based on estimates by the U. S. Bureau of Labor Statistics, is used as reflecting types of full-time work in which young persons for whom employment certificates are required are likely to be engaged.

⁹ When the National Industrial Recovery Act was passed in 1933, a 16-year minimum age for employment was on the statute books of only 4 States—Montana, Ohio, Utah, and Wisconsin. Children for the most part were permitted to leave school for work at 14 years of age, if they had fulfilled certain requirements. In contrast, practically all the codes, beginning with that for the cotton-textile industry, effective July 17, 1933, prohibited the employment of children under 16, though there were a few exceptions.

Children for whom first regular employment certificates were issued, and persons in nonagricultural employment in the United States, 1929 to 1938

Year	Employment certificates issued for minors—				Estimated nonagricultural employment in the United States of persons of all ages ³	
	14 and 15 years of age ¹		16 and 17 years of age ²		Number	Index (1930=100)
	Number ⁴	Index (1930=100)	Number ⁵	Index (1930=100)		
1929.....	13,240	181.6	38,453	138.4	31,876,000	107.2
1930.....	7,289	100.0	27,793	100.0	29,727,000	100.0
1931.....	4,434	60.8	23,403	84.2	26,747,000	90.0
1932.....	2,781	38.2	19,972	71.9	23,713,000	79.8
1933.....	1,466	20.1	21,977	79.1	23,854,000	80.2
1934.....	361	5.0	26,754	96.3	26,150,000	83.0
1935.....	809	11.1	27,100	97.5	27,258,000	91.7
1936.....	1,853	25.4	28,454	102.4	29,017,000	97.6
1937.....	1,919	26.3	33,625	121.0	30,552,000	102.8
1938.....	1,247	17.1	27,212	97.9	28,222,000	94.9

¹ Figures based upon reports from 27 cities with 100,000 or more population (1930 census) in which minimum-age standards were not changed during the period 1927-38. Cities included are: Atlanta, Baltimore, Chattanooga, Chicago, Denver, Detroit, Fort Wayne, Grand Rapids, Indianapolis, Kansas City (Kans.), Knoxville, Los Angeles, Louisville, Lowell, Lynn, Minneapolis, Nashville, Omaha, Peoria, St. Paul, San Francisco, Somerville, South Bend, Springfield (Mass.), Washington (D. C.), Wichita, and Wilmington.

² Figures based upon reports from 18 cities with 50,000 or more population (1930 census). Cities included are: Buffalo, Cincinnati, Columbus, Dayton, Grand Rapids, Hamtramck, Kalamazoo, Milwaukee, New Orleans, New York, Niagara Falls, Rochester, Saginaw, San Francisco, Springfield (Ohio), Toledo, Yonkers, and Youngstown.

³ Source: Bureau of Labor Statistics, U. S. Department of Labor. The estimates cover all persons engaged in gainful work outside of agriculture, except for the CCC, WPA, and NYA work projects, and the CWA and FERA work programs in 1933 and 1934. The estimates presented here exclude officials, proprietors, and self-employed persons.

⁴ Figures for Detroit and Grand Rapids are for 15-year-old children; law does not permit issuance of certificates for 14-year-old children.

⁵ Figures for cities in Wisconsin and New York are for 16-year-old minors; laws did not require issuance of certificates for minors over 16 until September 1935 in Wisconsin and September 1936 in New York State. Figures for New Orleans are for girls only.

⁶ Figures for Hamtramck are for 16-year-old minors only. Figures for San Francisco and the District of Columbia include certificates issued for work outside school hours and during vacation.

Children 14 and 15 Years of Age

Number of Children Going to Work

In the area from which complete reports were received, the number of first regular employment certificates issued for 14- and 15-year-old children—that is, certificates allowing them to leave school for work—decreased from 15,551 in 1936 to 8,323 in 1937 and 5,080 in 1938.¹⁰ Of the certificates issued in 1936, however, nearly half (6,891) were issued in New York and Rhode Island cities, where the basic minimum age was raised to 16 in the latter part of the year, and 592 were issued in North Carolina where a similar advance in State legislation was made in 1937. In areas in which the employment of children of 14 and 15 years was generally permitted by law during this 3-year period (that is, in areas in which the minimum age for employment was not raised to 16) the number of children 14 and 15 years of age leaving school for work showed only a slight decrease from 1936 to 1937 (from 8,068 to 7,968), but substantial decrease was shown from 1937 to 1938 (from 7,968 to 5,062).

¹⁰ In a larger area, including States and cities that reported only the total number of certificates issued, the number decreased from 21,413 in 1936 to 11,701 in 1937 and to 7,431 in 1938. These figures are based upon reports received from 15 States, the District of Columbia, and 89 cities of 50,000 or more population in 21 other States.

Preliminary figures for the first 6 months of 1939, compared with figures for the first 6 months of 1937 and 1938,¹⁴ show a decrease in the number of children under 16 leaving school for work. There was a decrease from 4,191 in the first 6 months of 1937 to 2,425 in the first 6 months of 1938, or 42 percent; in the first 6 months of 1939 the number fell to 1,908, a further drop of 21 percent. The drop between the first half of 1937 and the first half of 1938 corresponded roughly to the downward trend in nonagricultural employment; the drop between the corresponding periods in 1938 and 1939, however, was contrary to an upward employment trend. Thus, for the first time since the period when the codes under the National Industrial Recovery Act were in effect, a decrease in the number of children under 16 leaving school for work occurred in spite of increased general employment. This is believed to be due primarily to the effect of the Fair Labor Standards Act of 1938, which went into effect October 24, 1938, and which drastically restricted employment of children under 16 in industries producing goods for shipment in interstate commerce.

Occupations Entered

Comparatively small numbers of the children under 16 leaving school for work were entering manufacturing and mechanical industries. In areas for which comparable figures are available for 1936, 1937, and 1938, the proportion of children of 14 and 15 years entering these industries has ranged between 12 and 14 percent. Slightly larger proportions, between 13 and 16 percent, entered mercantile work, while 42 to 44 percent, entered the domestic-service and personal-service occupations. Less than 4 percent of the group were found in office work in any of these years.

Reports of regular employment certificates issued in the first 6 months of 1939 indicate a considerable decrease in the percentage of 14- and 15-year-old workers entering manufacturing and mechanical industries, a decrease undoubtedly due to the restrictive effect of the 16-year minimum age set by the Fair Labor Standards Act. The proportion going into the domestic-service and personal-service occupations increased correspondingly.

Minors 16 and 17 Years of Age

Number of Minors Going to Work

The problem of gainful employment of young persons between 16 and 18 years of age requires an approach that is different from that required by the problem of the younger boys and girls. It has been very generally advocated that the years of a child's life up to 16 should be devoted to mental and social growth rather than to full-time wage earning. On the other hand, it has been thought that for a large group of minors of 16 and 17 years entrance to employment may be desirable, if properly safeguarded; suitable educational opportunity, however, should be available for those who wish to attend school, and no youth between 16 and 18 should be both out of school and without useful employment. Labor legislation for minors of this older age group

¹⁴ Comparisons by corresponding 6-month periods in the 2 years, rather than by consecutive 6-month periods, are used because of seasonal differences in proportions of certificates issued during the first and the last half of a year.

is needed chiefly to protect them from long hours, low wages, dangerous work, and other undesirable conditions of employment. Thus, Federal and State child-labor legislation, while tending to keep children under 16 out of industry, has had no such definite restrictive effect upon employment of workers of 16 and 17 years, and prohibitive legislation for children under 16 may have the effect of opening employment opportunities for older minors.

The number of minors 16 and 17 years of age for whom first regular employment certificates¹² were issued in the areas for which complete reports were received for each of the 3 years, 1936-38, was, roughly, between 70,000 and 95,000. Although the number for 1938 (69,540) was less than in either of the 2 preceding years, there was an increase in 1937 as compared with 1936 (from 84,629 in 1936 to 94,937 in 1937).¹³ This increase may be attributed chiefly to the effect of the New York law, operative September 1, 1936, raising to 16 the minimum age for employment, and resulting in more openings for slightly older workers. In a few cities the number of certificates issued was greater in 1938 than in 1936, and in many places there was little difference in the numbers issued in each of the 3 years.

Occupations Entered

In the period 1936-38, openings in manufacturing and mechanical industries were more frequent for the 16- and 17-year-old boys and girls than for those under 16. However, the percentage of the older group entering these occupations decreased from 34 percent in 1936 to 25 percent in 1938. There was a corresponding increase in the proportion of minors 16 and 17 years old entering outside messenger and delivery work. Somewhat less than one-fifth of this group entered mercantile establishments and about one-fourth entered domestic- and personal-service occupations. Contrary to the situation for the children of 14 and 15 years, there appear for the 16- and 17-year-old workers no marked changes in the occupational distribution in the first half of 1939 as compared with 1938, as this group was affected only indirectly, if at all, by the minimum-age provisions of the Fair Labor Standards Act.



Child Labor in Agriculture

Children's work in agriculture has been viewed traditionally as healthful, out-of-door activity on the home farm, supplementing the child's formal education. During the past few decades, however, wide areas of American agriculture have changed to an industrialized type of production, with the result that much farming activity is no longer a "way of life" but a part of the industry of the Nation.

¹² In some States where children are not required to attend school after reaching the age of 16, regular certificates may be issued to all children applying who have met the legal requirement without regard to whether or not they are attending school. For this reason, these figures include, in all years, some children working outside school hours and during vacation.

¹³ These figures are based on reports from 3 States, the District of Columbia, and 80 cities in 11 other States. In a somewhat larger area, including States and cities that reported only the total number of certificates issued, the number increased from 89,657 in 1936 to 102,018 in 1937 and decreased to 75,595 in 1938. These figures are based on reports received from 4 States, the District of Columbia, and 67 cities of 50,000 or more population in 10 other States.

Thousands of laborers, among them large numbers of children of all ages, are employed in the cultivation and harvesting of many crops under conditions that do not differ essentially from those in industrial employment. However, very little progress has been made in extending the generally recognized child-labor standards for industrial employment to employment in agriculture.

Child Labor in Industrialized Agriculture

The United States Children's Bureau and other agencies interested in the welfare of children in families of agricultural workers have made a number of sample studies over a period of almost three decades to determine the circumstances under which agricultural laboring families and their children live and work. In the statement submitted by the Children's Bureau to the La Follette Committee¹ in May 1940 and revised for submission to the Tolan Committee² in December 1940, the Children's Bureau brought together data from numerous studies of agricultural child workers made since 1930.³ These studies show that children of all ages work at hand operations in the cultivation or harvesting of many crops, that strenuous labor, long hours, and low wages are typical, and that such work competes seriously with schooling. Moreover, children in migratory families, who go from crop to crop or who come from towns into farming areas during the crop season, are subject to additional hazards and deprivations incident to constant migration.⁴

Ages of the children.—Many children under 14, some as young as 6 or 7 years of age, work in the fields. A study of agricultural labor made in New York in 1940, for example, revealed that out of a total of 3,670 workers employed on 100 truck farms, 1,629 (44.4 percent) were under 16 years of age, 1,070 (29.2 percent) were under 14 years of age, and 330 (9.0 percent) were under 10 years of age.⁵

Types of work.—The fact that agricultural work is carried on out-of-doors, and that many of the tasks in themselves may be quite harmless, has tended to obscure the actual nature of the work done by children who are hired as seasonal laborers. Many of the processes performed by these children consist of the mechanical repetition of tasks, and require cramped, crawling, or stooping positions. In some instances the very youngest children may do only the lighter

¹ Statement of Beatrice McConnell, Director, Industrial Division, Children's Bureau, U. S. Department of Labor, on Child Labor in Agriculture. Submitted to a subcommittee of the Committee on Education and Labor, U. S. Senate, pursuant to S. Res. 266, May 27, 1940. (Hearings before a subcommittee of the Committee on Education and Labor, U. S. Senate, 76th Cong., 3d sess., pursuant to S. Res. 266 (74th Cong.), a resolution to investigate violations of the right of free speech and assembly and interference with the right of labor to organize and bargain collectively: Part 3, Supplementary Hearings, National Farm Labor Problem, Washington, D. C., May 23, 24, 27, June 3 and 4, 1940 (pp. 790-843), Washington, 1941.)

² Select Committee To Investigate the Interstate Migration of Destitute Citizens, pursuant to H. Res. 63, and H. Res. 491, 76th Cong., April 22, 1940.

³ For previous studies, see the following report: Child Labor, report of subcommittee on child labor, White House Conference on Child Health and Protection, New York, 1932. (See also Handbook of Labor Statistics, 1936 edition, U. S. Bureau of Labor Statistics Bull. No. 616, Washington, 1936, pp. 39-42.)

⁴ Social problems of migrants and their families were discussed in the report submitted by the Secretary of Labor to the U. S. Senate on July 3, 1937. (Migration of Workers, preliminary report of the Secretary of Labor pursuant to S. Res. 298 (74th Cong.), a resolution to make certain investigations concerning the social and economic needs of laborers migrating across State lines. U. S. Department of Labor, Washington, 1938. Mimeographed.)

⁵ Agricultural Child Labor, Report by New York State Department of Labor, November 8, 1940. (Manuscript.) For published summary see Child Workers in the Berry and Bean Fields of Erie County, New York, in *The Child*, May 1941, pp. 290, 291.

tasks, such as the bunching and tying of vegetables. Commonly, however, the operations that the children perform are the same as those performed by adult laborers, and even young children may perform such strenuous tasks as lifting heavy baskets or dragging heavy sacks.

In addition, the children are subject to the accident hazards attendant upon farm work and to the serious hazards involved in truck transportation to and from the fields; truck accidents have been reported in which young workers were killed, or in which young workers were injured when a rear gate or rack of an overcrowded truck gave way and they were thrown out.

Hours of work.—The working hours of children employed in the fields have been found in child-labor studies to be usually the same as those of adults. Long working days occur particularly during harvest and other rush seasons, the times at which the largest number of children are employed. Although the rush season for a particular crop may be short, 5 or 6 months of intermittent rush work are common in some areas, as for example in southern New Jersey, where the successive harvesting of different crops provides fairly continuous employment from strawberry picking in May to cranberry picking just before the November frost.

Wages.—Frequently children who work in agriculture as laborers are members of family groups employed under a contract or family-wage system. The child's work is counted in with that of his parents or older relatives and payment for his production is made to the family or the head of the family group. Recent studies show, however, that even with the combined labor of adults and children, family incomes among agricultural laborers are very low.

Education.—One of the most serious consequences of agricultural child labor is its interference with schooling. The use of children as hired seasonal laborers may cause repeated or prolonged absences from school, thereby retarding the child's educational progress. Moreover, due to economic pressure and discouragement with their slow school progress, child workers may drop out of school before they have acquired even a reasonable minimum of school training.

Child-Labor Regulation in Sugar-Beet and Sugarcane Fields

The use of children for hand processes in sugar-beet production, traceable largely to the family contract system and the low incomes of workers, has been for many years an outstanding feature of the industry.⁶ A beginning in the regulation of child labor in sugar-beet and also sugarcane production was made under an amendment to the Agricultural Adjustment Act. This act⁷ had designated certain products as basic commodities and provided for the payment of benefits to producers entering into production and marketing agreements with the Secretary of Agriculture. In May 1934, by an amendment to the act, sugar beets and sugarcane were made basic commodities, and the Secretary of Agriculture was specifically authorized to include regulation of child labor in benefit contracts.⁸

⁶ See U. S. Children's Bureau Pub. No. 115: *Child Labor and the Work of Mothers in the Beet Fields of Colorado and Michigan*, Washington, 1923.

⁷ Agricultural Adjustment Act, May 12, 1933 (ch. 25, 48 Stat. 31; H. R. 3835, Public, No. 10, 73d Cong.).

⁸ Jones-Costigan Act, 1934 (48 Stat. 670, Public, No. 213, 73d Cong.).

These contracts provided as a condition for payment of benefits that no child under 14 should work in the production of sugar beets or sugarcane, and that the hours of labor for children between 14 and 16 should be limited to 8 a day; growers' children on their parents' farms were exempted from these provisions.

After consultation with the Agricultural Adjustment Administration, the Children's Bureau in 1935, while the benefit contracts under the Jones-Costigan amendment were in use, made a study of conditions affecting child welfare in beet-producing areas in six States—Colorado, Nebraska, Wyoming, Montana, Michigan, and Minnesota.⁹

Among families that had worked both in 1934 (before these contracts were in effect) and in 1935, there was a marked decrease in the percentage of children under 14 years of age who had worked in the beet fields in 1935 compared to the percentage in 1934. Nevertheless, in 1935, 9 percent of the children between 6 and 12 years of age in all the families surveyed and 50 percent of those 12 and 13 years of age worked in the beet fields. Family income from sugar-beet work was seldom sufficient to provide a decent standard of living; for many of the workers, destitution during a part of the year was the only alternative to public relief. Median annual earnings from beet work in the families surveyed amounted to only \$340, and less than half of the families had earnings of more than \$50 in the year from other sources. The prevalence of child labor in the industry interfered seriously with school attendance. Although 90 percent of the children between 6 and 16 years of age had enrolled during the school year 1934-35, more than half of those enrolled were absent in the spring, or the fall, or both, on account of their own work in the beet fields or that of their families.

Preliminary findings of the survey were made available to the Department of Agriculture for use in recommending new sugar-beet and sugarcane legislation, enacted in 1937¹⁰ to take the place of the earlier provisions which were invalidated when the Agricultural Adjustment Act was declared unconstitutional in 1936.¹¹ The new legislation contained practically the same child-labor standards as those incorporated in the earlier Agricultural Adjustment Administration contracts.¹²

Although this survey showed that the child-labor restrictions in the production-control contracts had been by no means entirely effective, the improvement in child-labor conditions over the 1934 season was encouraging and indicated the eventual possibility of eliminating employment of children under 14. Lack of compliance with the earlier child-labor provisions apparently had been due largely to the fact that no definite plan for requiring reliable proof of age for children working in the beet fields had been developed. It was accordingly recommended by the Secretary of Labor that certificates of age be provided

⁹ U. S. Children's Bureau Pub. No. 247: *Welfare of Families of Sugar Beet Laborers*. Washington, 1939.

¹⁰ Sugar Act of 1937 (Public, No. 414, 75th Cong., H. R. 7667).

¹¹ *United States v. Butler et al., receivers of Hoosac Mills Corporation* (297 U. S. 1).

¹² The Sugar Act of 1937 prescribes as a condition for the granting of benefit payments under the act that no child under 14 be employed in the cultivation or harvesting of sugar beets or sugarcane, and that no child between 14 and 16 be employed more than 8 hours a day. These provisions apply to all producers claiming benefits under the act except that members of the immediate family of owners of as much as 40 percent of the crop as to which benefits were claimed are exempted.

as an administrative method of checking compliance with the child-labor provisions of the new act. By the spring of 1939 a program for making certificates of age available for children employed by growers was worked out. Under this program the Children's Bureau has developed a program of certificate issuance in cooperation with State and local officials; the Sugar Division of the Department of Agriculture has familiarized the State and county agricultural conservation committees, through which the Sugar Act is administered, with the program and has encouraged sugar-beet and sugarcane growers to obtain certificates of age for children in their employ. The areas in which the program is now operative include the sugar-beet producing States of Colorado, Idaho, Iowa, Michigan, Montana, Nebraska, North Dakota, Ohio, Oregon, Utah, Wisconsin, and Wyoming, and the 22 Louisiana parishes producing sugarcane (December 31, 1941).

Recommendations of National and Regional Conferences Regarding Agricultural Child Labor

Faced with the general lack of State or Federal legislation which would effectively meet the problems of child workers in industrialized agriculture, several organizations and conferences have developed and endorsed standards embodying the principle of regulating child labor in industrialized agriculture, and of providing adequate educational opportunities for the children of migratory agricultural workers. Such standards were recommended by the 1940 White House Conference on Children in a Democracy,¹³ and by the President's Interdepartmental Committee To Coordinate Health and Welfare Activities.¹⁴ Standards have also been proposed by the International Association of Governmental Labor Officials,¹⁵ an organization of State labor-law administrators, and by the Conference of the American States, Members of the International Labor Organization.¹⁶ A similar interest in the establishment of protective measures applicable to child employment in agriculture has been voiced by the National Conferences on Labor Legislation¹⁷ which are called annually by the Secretary of Labor, and by Interstate Conferences on Migratory Labor held under the auspices of State labor departments.¹⁸

¹³ Children in a Democracy, general report adopted by the White House Conference on Children in a Democracy, January 19, 1940, Washington, D. C. (pp. 45, 69-74). Washington, 1940.

¹⁴ Migratory Labor. A report to the President by the Interdepartmental Committee To Coordinate Health and Welfare Activities, July 1940 (pp. 14, 15). (Mimeographed.)

¹⁵ A discussion of I. A. G. L. O. standards appears in Child Labor, a report to the Annual Meeting of the International Association of Governmental Labor Officials, September 9-12, 1940, New York. Submitted by the Child Labor Committee. (Mimeographed.)

¹⁶ Second Conference of American States, Members of the International Labour Organization, Havana, November 1939, Report on the Action Taken To Give Effect to the Resolutions Adopted by the Santiago Conference, Second Item on the Agenda (pp. 108-110). International Labor Office, 1939.

¹⁷ See Proceedings of the Third National Conference on Labor Legislation (1936), p. 65; Proceedings of the Fourth National Conference on Labor Legislation (1937), p. 108; Reports of Committees and Resolutions Adopted by Fifth National Conference on Labor Legislation (1938), pp. 13-14; Proceedings of the Sixth National Conference on Labor Legislation (1939), pp. 93-94; Reports of Committees and Resolutions adopted by the Seventh National Conference on Labor Legislation (1940), pp. 2, 14-16. The Proceedings of the National Conferences on Labor Legislation were issued as bulletins of the U. S. Department of Labor, Division of Labor Standards. The Reports of Committees and Resolutions adopted by the Fifth and Seventh National Conferences on Labor Legislation were issued as Bulletins 25-A and 45-A by the U. S. Government Printing Office.

¹⁸ See Proceedings of the Interstate Conference on Migratory Labor (Delaware, Maryland, New Jersey, Virginia), Baltimore, Md., February 12-13, 1940, pp. 97-98; and Proceedings of the Interstate Conference on Migratory Labor (Alabama, Florida, Georgia, North Carolina, South Carolina), Atlanta, Ga., December 17-18, 1940, pp. 63-67.

Children in the Theater¹

Nearly all of the States have legislation concerning the employment of children as entertainers, but the laws vary greatly as to the kinds of work covered, the age and circumstances under which employment is allowed, and the status of these young wage earners with road companies.

So little seemed to be known regarding the working conditions of children in the entertainment industry that the National Child Labor Committee, after consultation with representatives of both child-welfare and theatrical interests, conducted a study of children on the legitimate stage in the hope that studies of children in the allied fields of entertainment might follow. The results are presented in a report published in 1941.²

It is noted in the introduction to the report that children on the legitimate stage do not take the places of older workers. They are used only when a play calls for a child's part; and in some cases, where a play has a long run, another child has to be substituted for one who has outgrown the part. Again, the term "cheap child labor" does not apply to the type of employment under discussion, for every child on the legitimate stage is paid a fixed salary rate under a contract of the Actors' Equity Union.

The one problem to be considered is whether theater employment is advantageous or disadvantageous to the child. The significant aspects would seem to be the results of such employment upon schooling and health, the psychological effects, whether the work interferes with normal childhood activities, and to what extent it is of vocational value.

The home backgrounds of the children included in the study varied widely, some of their fathers being laborers and others professional men. Less than one-third of these children belonged to families with any experience on the legitimate stage or in other fields of the entertainment industry.

Age of Children in the Theater

The age at which the child starts work on the legitimate stage is subject to great variation. Among the 63 child actors covered by the report and who had appeared in Broadway productions, only 7 had had their first part before they were 7 years of age. It is probable this was due to the fact that for a long period 7 years had been the minimum age in New York City, although there are exceptions to this provision. For the whole group the median age at their first appearance in the legitimate theater was 9 years.

Of the 1,138 child appearances for which permits were granted in the decade and a half from 1925 to 1940, over one-third were for children who were under 10 years of age at the time they appeared. The median age was between 10 and 11 years, being approximately a year older for boys than for girls.

¹ From *Monthly Labor Review* for April 1941.

² National Child Labor Committee. *Children in the Theater*. By Anne Hood Harken and Gertrude Folks Zimand. New York, 419 Fourth Ave., 1941.

Hours and Working Conditions

Work on the stage is irregular and intermittent. The hours per day and per week are not excessive, and most of these child actors are employed in the theater for only a small portion of the year. Such employment, however, is wholly dependent upon the number of plays in which a child is to appear during the year and also upon the length of the runs, which cannot be predicted.

The earnings of the majority of the child actors studied were used entirely for their own expenses and benefit and many had savings accounts. About one-third contributed to the general family expenses. In three exceptional cases the children were the sole wage earners in the family.

The investigators found that few of the children in the theater confine their professional activities to the stage. They seek or are "on call" for other kinds of work in the entertainment field—motion pictures, commercial photography, and radio. Even while cast for a play, some will do other work.

Physical, Educational, and Social Effects Upon the Children

Although there are individual cases of long (in some instances excessively long) rehearsal periods, and also instances in which even young children have had schedules which were too heavy, "it appears that on the whole work in the legitimate theater is an occupation for a small number of children in which proper safeguards are not too difficult to achieve. A regimen is possible which allows for education, recreation, and adequate time for sleep."

In the opinion of the investigators, if the abuses are controlled, and if the child actor has periodic medical supervision, the work cannot reasonably be considered disadvantageous to the child's physical well-being.

Most of the children studied had superior mental ability, which was reflected in their school grades. Thirty-eight percent were being accelerated in their school work, 58 percent were normal, and only 3 percent were found to be retarded. Although employment in the theater interferes somewhat with the school routine children ordinarily follow, the young actors apparently had overcome this handicap. Most of them were pupils in the Professional Children's School, which offers special facilities for the education of theater children.

Although it was not possible in one or two interviews to measure the social adjustment of the stage children covered by the study, it was noted that certain aspects of their professional employment might be inimical to a normal emotional development, while other features would seem to have an actual psychological value. From the 65 children interviewed, however, "no clear-cut pattern emerged that would justify any conclusions as to the relative advantages or disadvantages of theater work from a mental hygiene viewpoint for the group as a whole or even for individual children."

The extent to which theater children are "talented" and the value of their experience as training for a future theatrical career are debatable subjects. Few of these young folks start their professional work

in the legitimate theater and many of them find opportunities in the entertainment industry only by chance.

Opinions of the theater children, of their parents, of adults who had been stage children, and of producers, directors, and other persons connected with theatrical life, differ as to the particular advantages of childhood experience in acting with reference to future success in the profession. All, however, agree in the belief that such experience "has definite cultural, educational, and disciplinary values."

Problems Connected With State Legislation

The great diversity in State legislation regarding child actors in traveling companies and the lack of a uniform enforcement policy in various cities result in serious difficulties not only for theatrical productions which open out of town or make tours but also for the stage children themselves. Frequent attempts are made to evade these statutes.

Regulation of children's work in the theater must be on a different basis than regulation of other forms of child employment. The child actor is not to be regarded solely as a working child, but as a participant in an artistic production. The objective of regulation of work by theater children should be to protect the child from undue strain without depriving him of the opportunities and advantages which such employment may bring. It is a field in which supervision is desirable but in which legal regulation should be kept to the minimum necessary to insure such supervision and to prevent individual instances of overwork.

Recommendations

In addition to special recommendations of the advisory committee relating to the employment of theater children, it is suggested in the report that a central service for professional children in all branches of the entertainment industry should be established which might (1) serve as an employment exchange, (2) carry on health examinations as a prerequisite for employment permits, (3) make possible the enforcement of regulations for the employment of children, and (4) serve as a consultation and advisory agency for parents and children.



Status of Federal Child-Labor Amendment

The United States Supreme Court, in opinions handed down on June 5, 1939, cleared the way for the completion of ratification of the pending child-labor amendment to the Constitution of the United States. This amendment,¹ which reads as follows, would give Congress specific power to enact child-labor legislation effective throughout the whole country in both interstate and intrastate industries:

SECTION 1. The Congress shall have power to limit, regulate, and prohibit the labor of persons under 18 years of age.

SEC. 2. The power of the several States is unimpaired by this article except that the operation of State laws shall be suspended to the extent necessary to give effect to legislation enacted by the Congress.

¹ H. J. Res. No. 184, 68th Cong., 43 Stat. 670.

It should be noted that the amendment in itself is not a law, but an enabling act, giving Congress power to pass Federal child-labor legislation.

During the period between 1924, when the amendment was submitted to the States, and 1939, when the Supreme Court cases hereafter referred to were decided, the amendment had been ratified by 28 States, and some of these States had ratified it after they had previously rejected it. The questions which finally came to the United States Supreme Court arose in two cases—*Coleman v. Miller* (59 Sup. Ct. 972) from the Kansas Supreme Court, and *Chandler v. Wise* (59 Sup. Ct. 992) from the Kentucky Court of Appeals. As a result of the Supreme Court's decision, ratifications by Kansas and Kentucky, which were the subject of the dispute, were allowed to stand, and the amendment was left open for ratification by other State legislatures.

In both these cases it had been argued that the amendment was no longer subject to ratification for two reasons, first, because of the lapse of time since its submission in 1924 and, second, because the legislature of each of these States had previously rejected it. These arguments were not sustained by the United States Supreme Court.

In the Kansas case, the decision of the State supreme court, which had refused to interfere with the certification of the Kansas ratification to the Secretary of State of the United States, was upheld by the United States Supreme Court, basing its affirmation on the ground that these questions are political in nature and not for court review.

As to the effect of a rejection by a State prior to ratification, the United States Supreme Court referred to the history of the fourteenth amendment as a historical precedent for its opinion that this is a political question. At that time it was the political branch of the Government, Congress, and not the judicial branch, the courts, that passed on the question whether the amendment had been in fact ratified, deciding that, in the presence of an actual ratification, both a prior rejection and a subsequent withdrawal of ratification were ineffectual.

As to the effect of lapse of time between the submission of an amendment and its ratification by a State, the Court held that this also is not a question for the courts but a political question which should be open for the consideration of Congress when, "in the presence of certified ratifications by three-fourths of the States, the time arrives for the promulgation of the adoption of the amendment."

The Supreme Court dismissed the Kentucky case, *Chandler v. Wise*, upon the ground that "after the Governor of Kentucky had forwarded the certification of the ratification of the amendment to the Secretary of State of the United States, there was no longer a controversy susceptible of judicial determination."

No States have ratified the amendment since 1939. At the present time (July 1, 1941) 8 more ratifications are needed to make up the 36 necessary for the adoption of the amendment as a part of the Federal Constitution.

The States that have already ratified and the dates of ratification are as follows:

Arizona, 1925.	Maine, 1933.	Ohio, 1933.
Arkansas, 1924.	Michigan, 1933.	Oklahoma, 1933.
California, 1925.	Minnesota, 1933.	Oregon, 1933.
Colorado, 1931.	Montana, 1927.	Pennsylvania, 1933.
Idaho, 1935.	Nevada, 1937.	Utah, 1935.
Illinois, 1933.	New Hampshire, 1933.	Washington, 1933.
Indiana, 1935.	New Jersey, 1933.	West Virginia, 1933.
Iowa, 1933.	New Mexico, 1937.	Wisconsin, 1925.
Kansas, 1937.	North Dakota, 1933.	Wyoming, 1935.
Kentucky, 1937.		



White House Conference on Children in a Democracy

Specific standards both for child-labor regulation and for methods of satisfying the employment needs of youth were among those approved by the White House Conference on Children in a Democracy held in Washington, D. C., January 18-20, 1940,¹ and follow-up conferences in the States have been held with a view to promoting these standards.

This conference was organized at the suggestion of the President of the United States. It concerned itself with the interests of all the children of the Nation and with every aspect of child welfare, including home life, material security, education, health, and general preparation for the responsibilities of citizenship. It was a citizens' enterprise, in which persons representing many types of professional and civic interests, practical experience, and political and religious belief joined together to consider the aims of our American civilization for the children in whose hands its future lies.

The conclusions presented to the Conference by the Section on Child Labor and Youth Employment were based on recognition of the significance of youth as members of our present democracy and as the bearers of its future—a significance which it was felt must be given major attention in national planning and in public finance.

The section recognized that the achievement of the objectives that it proposed must depend on the wide extension of other social services for youth, such as public education and recreation, and on the development of general programs for solving the economic and social problems that condition the welfare of children and youth in all its aspects.²

The direct measures for child labor and youth employment that were discussed may be divided into two classes—(1) protective measures and (2) measures relating to educational and advisory services and work opportunities. It was also felt that a program for youth must include not only attainment of the standards recommended,

¹ Children in a Democracy, general report adopted by the White House Conference on Children in a Democracy, January 19, 1940, Washington, D. C. (pp. 43-50). Washington, 1940.

² These matters were considered by other sections of the conference. See Children in a Democracy, general report adopted by the White House Conference on Children in a Democracy, January 19, 1940, Washington, D. C.

but also provisions for guarding against any relaxation of those standards in the event of a national emergency resulting in labor scarcity.³

Protective Measures

The conference endorsed the following requirements for protective legislation in the field of child labor and employment of youth:

A minimum age of 16 for all employment during school hours and for employment at any time in manufacturing or mining occupations or in connection with power-driven machinery.

A minimum age of 16 for employment at any time in other occupations, except as a minimum age of 14 may be permitted for limited periods of work after school hours and during vacation periods in agriculture, light nonmanufacturing work, domestic service, and street trades. Determination of desirable standards for legislation governing child actors requires further study.

A minimum age of 18 or higher for employment in hazardous or injurious occupations.

Hours-of-work restrictions for persons up to 18 years of age, including maximum hours, provisions for lunch period, and prohibition of night work, the hours permitted not to exceed 8 a day, 40 a week, and 6 days a week.

Requirement of employment certificates for all minors under 18, issued only after the minor has been certified as physically fit for the proposed employment by a physician under public-health or public-school authority.

At least double compensation under workmen's compensation laws in cases of injury to illegally employed minors.

Minimum-wage standards for all employed minors.

Abolition of industrial home work as the only means of eliminating child labor in such work.

Adequate provision for administration of all laws relating to the employment of children and youth.

The conference also made the following recommendation with regard to the proposed child-labor amendment to the Federal Constitution:

Ratification of the child-labor amendment to the Constitution of the United States should be completed immediately.

With reference to provision of school facilities as it bears on child labor, the conference recommended the following:

Compulsory school-attendance laws should be adjusted to child-labor laws, since school leaving and child labor are closely related. Schooling during at least 9 months of the year should be both compulsory for and available to every child up to the age of 16.

It is the obligation of the community to provide a suitable educational program for all youths over 16 who are not employed or provided with work opportunities.

Financial aid from public sources should be given whenever necessary to young persons to enable them to continue their education even beyond the compulsory-attendance age if they wish to do so and can benefit thereby.

³ Preliminary Statements submitted to the White House Conference on Children in a Democracy, January 18-20, 1940, Washington, D. C. (pp. 145-159). U. S. Department of Labor, Children's Bureau, Washington, 1940.

Educational⁴ and Advisory Services and Work Opportunities for Youth

In the belief that the cost of constructive programs for satisfying the needs of American youth will be less than the ultimate cost of the neglect of the youth, the conference made the following recommendations:

Programs of general secondary education based on changes in industrial demands and opportunities and contributing significantly to responsible citizenship, wholesome family life, constructive use of leisure time, and appreciation of our cultural heritage should be developed.

Vocational preparation, guidance, and counseling services adapted to modern conditions and the changing needs of youth should be extended in the school systems, and when carried on under other auspices, should be conducted in cooperation with the schools.

Placement services for young workers should be staffed by properly qualified and professionally trained workers, with full cooperation between the schools and the public employment services.

Federal, State, and local governments should provide work projects for youths over 16 not in school who cannot obtain employment. Such work should be useful, entailing possibly the production of some of the goods and services needed by young people themselves and other unemployed persons. Civilian Conservation Corps and National Youth Administration activities should be continued and enlarged to serve more fully the purposes for which these agencies were created. There should be further experimentation in part-time work and part-time schooling.

No person should be arbitrarily excluded from work programs or other programs for youth because of a delinquency record.

⁴ General recommendations as to educational services in the community were made by another section of the conference. See *Children in a Democracy*; general report adopted by the White House Conference on Children in a Democracy, January 19, 1940, Washington, D. C.

Conciliation and Arbitration

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

Governmental Conciliation and Arbitration Agencies¹

Disputes Which Are Subject to Arbitration and Conciliation

In general, it may be said that conciliation and arbitration are concerned with disputes:

(1) Where the collective-bargaining relationship has been established but where there is a controversy over the interpretation, application, or observance of certain terms in an agreement already entered into by the employer and the union.

(2) Where there is a controversy over the terms of a new agreement under negotiation, or where there is no collective bargaining but where the right to bargain collectively is not the issue. Such disputes are rare in an unorganized plant, because it is difficult for a number of individuals without leadership or financial backing to express their grievances in an overt act of protest.

(3) Over rights between two or more unions to perform a certain job. There is a distinct difference between jurisdictional disputes and disputes between rival unions. A dispute between rival unions is likely to come under the jurisdiction of a labor relations board, since it is a matter of determining which union a majority of the workers in a certain trade or plant wish to have to represent them. In a jurisdictional dispute, it is a question of which union has jurisdiction over a certain trade or kind of work, the workers themselves already having chosen their bargaining agency.

Disputes arising over the first of the above-mentioned classes of disputes—the interpretation, application, or enforcement of an agreement already in force—are amenable to arbitration, since the basic terms of the employment relationship have been negotiated and embodied in the collective agreement. The arbitrator's sole duty is to clarify ambiguous clauses, to relate a general rule to a specific situation, or to determine whether or not the accused party has actually violated any of its terms.

Disputes arising over terms to be included in a new agreement are of an altogether different nature. These are controversies over what general wages, hours, and working rules should be adopted. While either one or both parties may ask for the assistance of an outside mediator in such a dispute, employers and unions are less likely to have such questions arbitrated, especially at the beginning of a dispute.

In the case of jurisdictional disputes, if both the unions concerned belong to the same affiliated organization, this organization usually attempts settlement. In many instances the city or national federation, such as the City Trades Council or Building Trades Department

¹ Abstract of article *Adjustment of Labor Disputes*, by Florence Peterson of the Bureau of Labor Statistics, in the November 1939 Monthly Labor Review, with addition of later data.

of the American Federation of Labor, has established special machinery for the adjustment of jurisdictional disputes. At the request of one or both parties, Government agencies may intervene.

Types of Arbitration and Conciliation Agencies

There are two main channels through which labor disputes in this country are adjusted: (1) Committees of private citizens or individual arbitrators who are appointed directly by the parties concerned in the disputes; (2) governmental agencies—Federal, State, and local. The latter may be permanent boards established by law, or they may be temporary committees appointed by the President, governor, or mayor in pursuance of a law which permits or requires such appointment when certain occasions arise. The following is a brief summary of Federal, State, and city conciliation and arbitration agencies which were functioning in 1940 and the early part of 1941.²

Some of these agencies have rather broad powers to investigate disputes but none has any authority to compel arbitration. Legal compulsory arbitration does not at present exist anywhere in the United States. By court decision,³ as well as by preponderance of public opinion, it is held to be contrary to a free, democratic form of government. Predominantly in this country legislation dealing with the settlement of labor disputes has clearly indicated that any government intervention shall be voluntarily agreed upon by the parties concerned, and that acceptance of the findings or recommendations shall be optional unless both parties have voluntarily agreed in advance to accept an arbitrator's decision.

Railroad Mediation

Because of the importance of railroads in the Nation's economic life, the Government very early began to concern itself with railroad labor relations. An arbitration act providing for the voluntary investigation of disputes was passed in 1888, but never used. The Erdman Act of 1898 provided for mediation and arbitration by the Commissioner of Labor and the chairman of the Interstate Commerce Commission. The Newlands Act of 1913 created a permanent, full-time Board of

² The National Labor Relations Board and the several State labor relations boards which are patterned along similar lines cannot strictly be called arbitration or conciliation agencies, although certain phases of their work approximate that of conciliation and arbitration. When a complaint is first made to a representative of the National Labor Relations Board, he may, and frequently does, act as a mediator in an attempt to get the parties to agree to obey the law. While the terms of the law are explicit and cannot be compromised, settlement of questions over specific application and adaptations necessarily have to be made. In such a capacity the representative of the Board serves more as a peace officer than as a conciliator.

³ The only experience this country has had with compulsory arbitration was that of the Kansas Court of Industrial Relations, which functioned from 1920 to 1923. This court was given jurisdiction in disputes arising in the public utilities, coal, food, and clothing industries, wherein strikes were altogether prohibited in Kansas. The United States Supreme Court, in a suit brought by employers, declared the entire scheme of compulsory arbitration to be unconstitutional for industries not peculiarly affected with the public interest, thus depriving the industrial relations court of jurisdiction in manufacturing and transportation industries. In another case the Supreme Court held that the fixing of wages and hours, rules, and regulations by such a State agency was contrary to the due process clause of the fourteenth amendment in that it "curtailed the right of the employer, on the one hand, and of the employee, on the other, to contract about his affairs." Before even the first of these Supreme Court decisions was rendered, the court of industrial relations had practically ceased to function, because of the increasing opposition and indifference of the employers, workers, and public. In 1925 the court was abolished altogether.

Mediation and Conciliation. Under both of these acts, if Government mediators failed to obtain a settlement, they were to try to get the parties to agree to arbitration. Special tripartite arbitration boards were appointed for each such dispute, the Government appointing the neutral members if the others failed to come to an agreement. Awards made by the arbitration boards were binding.

When in 1916, the railroads refused to accede to the employees' demand for an 8-hour day, the employees threatened a general strike and refused to submit the matter to arbitration. This strike was averted by the enactment of the Adamson Act establishing a basic 8-hour day.

During the Federal control of the railroads in 1917-20 railway boards of adjustment were established, composed of an equal number of management and employee representatives, which had authority to make decisions in all disputes over the interpretation and application of existing agreements.

When the railroads were returned to private ownership in 1920 a Railroad Labor Board was established, composed of nine members appointed by the President. This Board was to investigate all disputes and to publish its findings and recommendations. Compliance with its decisions, however, was not obligatory.

The 1926 act reestablished mediation as the basic method of Government intervention. Although arbitration was not compulsory, having once been accepted, awards were binding.

Labor relations on the railroads at the present time are governed by the 1934 amendments to the 1926 act. These created a 3-man National Mediation Board, appointed by the President, and a National Railroad Adjustment Board, consisting of 18 carrier representatives and 18 union representatives. The Adjustment Board, with headquarters in Chicago, is divided into 4 separate divisions, each of which has jurisdiction over a distinct class of employees, viz, train and yard service, shop craft, etc.

In this arrangement for the handling of labor relations on the railroads, a clear distinction is made with respect to the basic differences in the character of labor disputes; that is, those over the interpretation and application of existing agreements, and those over terms of a new agreement—wages, hours, and working conditions, and questions concerning bargaining units and representation agencies.

The Adjustment Board handles disputes "growing out of grievances or out of the interpretation or application of agreements concerning rates of pay, rules, or working conditions." The decision of the Adjustment Board may be enforced by civil suits in Federal district courts. If the bipartisan board is unable to agree it must appoint a referee; if it cannot agree in a selection, the National Mediation Board appoints such referee.

The National Mediation Board takes care of the other two classes of disputes. Through holding elections or by other means it certifies who shall represent the workers in their collective bargaining. On request of either party to a dispute involving changes in pay, rules, or working conditions, or on its own motion in cases of emergency, it intervenes and through mediation attempts to bring about an agree-

ment. If its mediating efforts fail, the Board attempts to induce the parties to submit their controversy to arbitration, the arbitration board to be selected by the parties concerned. If they cannot agree on the selection, the Mediation Board is authorized to name the members of the board.

If arbitration is refused by either party, and the dispute should "threaten substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service," the Board is required to notify the President, who may appoint an emergency board to investigate the facts and report thereon within 30 days. During this time no change, except by agreement, may be made by the parties to the controversy in the conditions out of which the dispute arose. While the law does not require compliance with the recommendations of the emergency board, the publication of the findings of fact of such a board makes it very difficult for either party not to follow its suggestions.

Maritime Labor Board

In pursuance to an amendment to the Merchant Marine Act, the President, in July 1938, appointed a 3-member Maritime Labor Board. One of the duties of this Board is to act as mediator upon request of either party in any dispute over the interpretation of an agreement or over the terms of a new agreement. If mediation services are unsuccessful, the Board uses its best efforts to secure the assent of both parties to arbitration.⁴

Federal Conciliation Service

The act passed in 1913, which created the United States Department of Labor, provided among other things: "* * * that the Secretary of Labor shall have the power to act as mediator and to appoint commissioners of conciliation in labor disputes whenever in his judgment the interests of industrial peace may require it to be done * * *." Under this provision the present United States Conciliation Service was established. This now has a staff of about 100 commissioners actively engaged in efforts to settle questions in dispute before strikes and lock-outs occur, or to bring them to a speedy settlement if they have already started. The Conciliation Service may enter a case at the request of either party to the dispute, or at the request of some representative of the public—mayor, governor, congressman. It may also intervene upon its own motion, but this is done only in the more serious disputes when it is believed that a public interest is involved.

Although the original act gave power to mediate in any kind of dispute, the Conciliation Service has no power of coercion or means to enforce its recommendations. When the National Labor Relations Act was passed, giving to workers the legal right to organize and to bargain collectively with their employers, the enforcement of this act was turned over to the National Labor Relations Board which exercises quasi-judicial power. When requested, however, the Conciliation Service intervenes in union-recognition disputes to the extent of

⁴ Conciliation activities of the Maritime Labor Board were terminated in July 1941.

supervising consent elections to determine the collective-bargaining agency. Thus the responsibilities of the two Federal agencies, the Department of Labor Conciliation Service and the National Labor Relations Board, are clearly distinguished between the judicial and enforcement function of deciding and maintaining rights under a given law, and conciliation or mediation which implies voluntarism and compromise.

The United States Conciliation Service is primarily concerned, not with the rights and mechanics of collective bargaining as such, but with the disputes which arise over the terms to be included in a collective agreement, or the interpretation and application of the provisions of the agreement after it is once made. Also, a conciliator may intervene in a dispute in an unorganized plant where the employees are seeking not collective-bargaining arrangements but only a settlement of a specific question of wages, hours, and working conditions. The Service is also frequently called upon to settle jurisdictional disputes, most of these being in the construction industry.

A Commissioner of Conciliation has no set formula of procedure when he is called in to help settle a dispute. Whenever possible he tries to get the parties concerned to discuss their differences in conference, in which case he acts as a conciliator. Frequently, especially during the early stages, either or both parties refuse to meet together. He then acts as a mediator, holding separate conferences with the respective sides, adjusting the minor points of misunderstandings or differences, and getting each to agree upon what major points can be or shall be further negotiated. If either or both sides still refuse to discuss together these major points, the commissioner may draft a plan of settlement independently and submit it to the parties as a recommendation, or he may obtain the approval of both sides to have the matter arbitrated, in which case he assists in making the plans and selecting the arbitrator. An increasing number of union agreements specify that the Conciliation Service act as arbitrator or select an arbitrator when disputes arise which cannot be adjusted by the parties concerned.

Whatever the exact procedure may be, only purely conciliatory methods are used. Acceptance of the commissioner's service is optional, and his recommendations may or may not be adopted. The results he obtains are dependent entirely upon the prestige of his office, the assistance he can render by reason of his knowledge of the facts involved in the dispute, his skill as a negotiator, and the willingness of the opposing parties to come to terms of agreement.

Activities of the Service.—During the year ended June 30, 1941, the United States Conciliation Service disposed of 3,705 labor disputes, involving 2,951,944 workers. In addition, 1,894 other situations, involving 494,213 workers (arbitrations, consultations, etc.), were disposed of during the year. The following table classifies these various situations by type of disposition.

Situations disposed of by U. S. Conciliation Service July 1, 1940, to June 30, 1941, by type of disposition

<i>Disposition</i>	<i>Number</i>	<i>Workers involved</i>
All situations handled-----	5, 599	3, 446, 157
Signed agreements-----	1, 208	537, 157
Renewal of signed agreements-----	452	389, 152
Verbal agreements-----	1, 059	836, 792
Written statements terminating situations-----	363	350, 510
Disputes called off; no further action required-----	261	71, 384
Unable to adjust-----	99	12, 807
Plants closed indefinitely-----	13	439
Investigations completed-----	427	274, 609
Referred to National Defense Mediation Board during negotiations-----	44	708, 390
Referred to National Labor Relations Board during negotiations-----	156	35, 025
Referred to other Federal agencies during negotiations-----	7	6, 435
Referred to State agencies, during negotiations-----	16	342
Referred to National Labor Relations Board, direct-----	39	40
Referred to other Federal agencies, direct-----	25	686
Referred to State agencies, direct-----	1	1
Referred to nongovernmental agencies-----	15	1, 242
No action required-----	19	1, 615
Outside parties appointed as arbiters-----	29	30, 139
Decisions rendered in arbitration-----	161	32, 148
Technical services rendered-----	114	47, 051
Consent elections held-----	19	4, 578
Union membership verified-----	10	982
Information furnished-----	1, 062	104, 633

National Defense Mediation Board, 1941⁵

In the latter part of 1940 and the early part of 1941 there occurred a series of industrial disputes which threatened seriously to interfere with production in several very important industries and which apparently were not amicable to settlement under existing machinery. In an effort to cope with situations of this character the President of the United States, by Executive Order of March 19, 1941, established a special agency known as the National Defense Mediation Board, and placed it in the Office for Emergency Management. The Executive Order provided that the Board should have 11 members, 3 representing the public, 4 representing labor, and 4 representing employees.

Procedure and Functions

Action by the Board is taken only after the Secretary of Labor certifies to the Board that a controversy or dispute has arisen between any employer or groups of employers and any employees or organizations of employees which obstructs or is likely to hinder or obstruct national defense and which cannot be adjusted by the commissioners of conciliation of the Department of Labor. Disputes coming within the jurisdiction of the Railway Labor Act as amended are excluded from consideration by the Board.

Under the terms of the President's order the Board is authorized—

(a) To make every reasonable effort to adjust and settle any such controversy or dispute by assisting the parties thereto to negotiate agreements for that purpose;

⁵ Replaced by National War Labor Board on January 12, 1942.

(b) To afford means for voluntary arbitration with an agreement by the parties thereto to abide by the decision arrived at upon such arbitration, and, when requested by both parties, to designate a person or persons to act as impartial arbitrator or arbitrators of such controversy or dispute;

(c) To assist in establishing, when desired by the parties, methods for resolving future controversies or disputes between the parties and to deal with matters of interest to both parties which may thereafter arise;

(d) To investigate issues between employers and employees, and practices and activities thereof, with respect to such controversy or dispute; conduct hearings, take testimony, make findings of fact, and formulate recommendations for the settlement of any such controversy or dispute; and make public such findings and recommendations whenever in the judgment of the Board the interests of industrial peace so require;

(e) To request the National Labor Relations Board, in any controversy or dispute relating to the appropriate unit or appropriate representatives to be designated for purposes of collective bargaining, to expedite as much as possible the determination of the appropriate unit or appropriate representatives of the workers.

When a controversy or dispute is referred to the Board, the chairman, according to the regulations of the Board, designates certain members as a division of the Board to act on the case. Such a division must have at least three members and each of the three groups—the public, employers, and employees—must be represented on any such division. If a controversy or dispute is brought to the Board's attention but has not been certified to it in the prescribed manner, the Board is required to refer it to the Department of Labor.

In order to settle disputes without interruption in production or transportation, the order specifies that it is the duty of employers and employees to give to the Conciliation Service of the Department of Labor and to the Office of Production Management “(a) notice in writing of any desired change in existing agreements, wages, or working conditions; (b) full information as to all developments in labor disputes; and (c) such sufficient advance notice of any threatened interruptions to continuous production as will permit exploration of all avenues of possible settlement of such controversies so as to avoid strikes, stoppages, or lock-outs.”

State Arbitration and Conciliation Services

State machinery for the adjustment of labor disputes antedates Federal conciliation services, that in Massachusetts and in New York, for instance, having been created as early as 1886. The concern of most State governments with employer-employee relations, however, has fluctuated with the increase and decline of labor disputes. In only a few States has there been any continuing, consistent program for the prevention and settlement of strikes and lock-outs. More generally, when there has been a sharp rise in union activity and workers have shown a disposition to make known their discontent and desires, the State government has hastily passed legislation in an attempt to meet the situation. During periods when there have been few disputes, such legislation often has been forgotten and many agencies which have been formed have become moribund through lack of interest and financial support.

With the recent increase in union activity and industrial disputes, many States again have interested themselves in employer-employee relations. Following the example of the Federal Government, most of the State legislation passed in 1935 and 1937 was concerned with

defining more clearly labor's "rights" and providing means for the protection of those rights. Five States, for instance, passed State labor relations acts which more or less followed the pattern of the National Labor Relations Act.⁶ Many more passed anti-injunction laws similar to the Norris-LaGuardia Act, which restricts court injunctions in labor disputes and makes "yellow-dog" contracts unenforceable in Federal courts.

Subsequent to the peak in strike activity in 1937, States which had passed protective legislation for labor, as well as others which had not already passed such legislation, turned their attention to ways and means for settling strikes and lock-outs. Inactive conciliation services were revived and new mediation and arbitration boards created. At the present time the majority of the States have some kind of legislative provision for the handling of employer-employee disputes. Most of them have designated conciliation and arbitration agencies. In some, however, there is merely enabling legislation permitting the establishment of boards of conciliation and arbitration, but no such boards have been appointed.

When discussing State mediation agencies, the role of the governor must not be ignored. When a threatened stoppage of work clearly threatens the public interest, even though there is no request for calling the militia, the governor frequently appoints a temporary committee to undertake settlement. Such intervention by the governor is limited to the larger and more important disputes.

Different Types of State Conciliation Agencies

There is a great deal of variation among the several State mediation agencies in their mechanical arrangements and legal powers, and the financial and moral support which is given them. The most common arrangement is for the conciliation service to be a part of the State labor department or industrial commission, the conciliators usually having other duties when not engaged in the work of settling disputes. A number of States have tripartite boards appointed by the governor. While these may be permanent boards, the individual members in some instances serve only upon occasion and are paid on a per diem basis. In such cases the boards work in close cooperation with the regular labor department, usually being called to service upon its request. In only a few of the more important industrial States are there full-time 3-man conciliation and arbitration boards. Several States have no permanent machinery but provide that the labor department or the governor shall appoint a conciliation committee as the occasion arises or when there is a particularly grave dispute.

A few State laws provide that the State agency may appoint city or county conciliation boards. So far as is known, no such local boards have ever been appointed.

The procedure in three States (New York, Massachusetts, and Pennsylvania) resembles the Federal arrangement by sharply differentiating disputes arising over questions of union organization and collective bargaining from those arising over questions of wages, hours, and working conditions. The former are handled by State labor relations boards with quasi-judicial powers, while the latter come under the State conciliation service.

⁶ In 1939 Wisconsin and Pennsylvania made drastic revisions in their acts. In 1941 Rhode Island enacted a labor relations act similar to the National Labor Relations Act.

Most generally the State agency intervenes only upon the request of one or both parties to the dispute, although a few of the laws specify that the agency shall on its own motion investigate disputes wherever "public interest is material." The Connecticut Board of Mediation and Conciliation is given power to enter any establishment to investigate conditions where a strike or lock-out exists; otherwise it intervenes only upon the request of one or both parties. The Massachusetts board is required to undertake mediation whenever it learns of any dispute.

Some of the laws require that a minimum number of persons, usually 10, shall be involved in a dispute before the State agency shall intervene. Others specify that there shall be State intervention only when asked by a designated number of private citizens, the local government officials, the employer, or a majority of the employees involved in the dispute.

A few laws specify that it is the duty of the parties to a dispute or threatened dispute to submit the matter to the State board for investigation. An early statute (1895) in Illinois, for instance, says executives of labor organizations shall notify the State agency of any strike or any threatened strike. When there is no penalty involved, such as prohibition of strikes or lock-outs until after the notification, such provisions can hardly be considered mandatory intervention.

Compulsory notification before stopping work.—The Colorado Industrial Relations Act, passed in 1915, prohibits strikes and lock-outs in industries affected with a public interest, pending investigation and report by the industrial commission. Employers and employees are required to give to the Commission 30 days' notice of any "intended change affecting conditions of employment or with respect to wages or hours." It is "unlawful for any employer to declare or to cause a lock-out, or for any employee to go on strike, on account of any dispute prior to or during an investigation, hearing, or arbitration of such dispute by the commission."

Until very recently, Colorado was the only State which forbade strikes and lock-outs pending investigation and issuing of a report by the State commission. During 1939 three States adopted legislation requiring notification to a State agency before stoppages of work may take place. The Wisconsin law provides for 10 days' notice before a strike may be called in the agricultural, dairy, and canning industries. Michigan requires 5 days' and Minnesota 10 days' notice before calling a strike against any employer, and 30 days' notice in businesses "affected with the public interest." When notice has been given to these State boards they are instructed to take immediate steps to effect settlement, the parties to the dispute being obliged to attend any conferences which the conciliator may call during the notification period. If mediation fails, the Board shall endeavor to have the parties submit the controversy to arbitration.

Voluntary acceptance of recommendations.—Since the Kansas experiment in 1920, no State has attempted to compel the parties to a dispute to accept the recommendations of the conciliation agency unless the parties have agreed beforehand to abide by its determina-

tions.⁷ In some instances, a degree of pressure is exerted by permitting or requiring the board to publish a written report with recommendations. The Washington law goes further by specifying that if conciliation fails and the parties refuse to arbitrate, the director of labor and industry shall request a sworn statement from each party of the facts in dispute and their reasons for not arbitrating, which statement shall be for public use. The Oregon and Massachusetts laws go still farther by providing that the State board shall prepare and publish its findings, placing the blame by designating which party is mainly responsible for the existence and continuance of the dispute.

Conciliation in Massachusetts and New York

Two States—Massachusetts and New York—have maintained conciliation agencies for over 50 years. While there has been no formal interruption in their activities, the character of the work has fluctuated from time to time, due to the amount of public interest and financial support and the type of personnel in charge. Recently both boards have been strengthened by additional legislation and financial support.

Both Massachusetts and New York have State labor relations boards which hold elections to determine collective-bargaining representatives and handle questions of union recognition and unfair labor practices. The conciliation and arbitration boards, therefore, do not usually concern themselves with disputes over collective bargaining, although upon occasion they may help to adjust such controversies when both parties wish to avoid the formality and possible delay incident to the filing of charges and holding of hearings necessary when bringing cases to the labor relations boards. If conciliation is unsuccessful, the case is then referred to the labor relations board.

Massachusetts.—The board of conciliation and arbitration, composed of three members appointed by the governor, operates under a law which requires the mayors of cities and selectmen of the towns to notify the board of any existing or threatened strike or lock-out. It is also the duty of the employers and unions to give notice to the board before resorting to strikes or lock-outs. Upon notice from any source, the board is required to intervene and endeavor to obtain an amicable settlement. If conciliation is unsuccessful, the board attempts to persuade the parties to submit the controversy to arbitration. If they refuse arbitration, the board may hold open hearings, to which it may summon witnesses, and publish its findings. In this report the board is required to place blame or responsibility in order that the public may be informed as to the causes of the dispute and its continuance.

The Massachusetts board is unique in its willingness to serve as arbitrator. In general Government agencies prefer to confine their activities to conciliation work. When conciliation fails they seek to persuade the parties in dispute to let the agency appoint an arbitration committee, or the neutral member of a 3-man arbitration committee. While the Massachusetts board assists the disputants

⁷ There is one exception—a South Carolina statute which requires arbitration of street-railway disputes in cities between 30,000 and 50,000 population if either party requests.

in the selection of a private or local arbitration committee, if they so desire, the board itself frequently assumes the role of arbitrator. Many of the union agreements, particularly those in the shoe industry, specify the Massachusetts board as the arbitrator for any dispute occurring under the agreement. During recent years this board has handled almost as many arbitration as conciliation cases.

Application for arbitration to the Massachusetts board must be made in writing, accompanied by a promise to continue in business or at work until the decision of the board is made, if such decision is rendered within 3 weeks. If only one party to the dispute makes application, the board must hold a public hearing on the application; if both parties ask for arbitration, a public hearing is not mandatory although it may be held if the board considers it advisable. The board has the legal power to subpoena witnesses to such hearings, but has not found it necessary to do so within recent years.

A second unique feature of the Massachusetts board is its employment of experts on a per diem basis. Other State boards occasionally make use of outside persons who are conversant with the industry or the particular problem in dispute. Usually, however, such persons serve on a voluntary basis or are paid by the parties in dispute.

New York.—The former Bureau of Mediation and Arbitration has been merged with the State Board of Mediation which was established July 1, 1937.⁸ The latter is a 5-man board, appointed by the Governor, which is enabled by law to intervene in any dispute upon request of either party or upon its own motion. While the board may subpoena witnesses to a hearing when both parties have voluntarily agreed that such a hearing shall be held, the board by court ruling is not permitted to subpoena the principals to a dispute.

Unlike the Massachusetts board, the New York board does not usually act as arbitrator, although individual members of the board occasionally serve as arbitrators upon request. Believing that its work as a mediator, where no compulsion is used and no orders or instructions are issued, might be impaired if it acted also as arbitrator where a decision becomes binding upon all parties, the board has chosen another method of handling arbitration cases. It has selected a panel of about 75 outstanding public-spirited citizens who have accepted the board's invitation to act as arbitrator when designated by it in specific cases. These persons are not paid from State funds, as are the experts in Massachusetts, although the two parties to the dispute sometimes reimburse the arbitrator. An increasing number of union agreements, particularly in New York City, specify that the board shall appoint the arbitrator for disputes which cannot be settled through conciliation.

City Conciliation Boards

While it would seem that city governments would be as concerned as the State and Federal Governments in providing means for the prevention and settlement of industrial disputes, few cities in the United States have established any conciliation machinery. Probably one reason for the lack of formal arrangements is the tendency to rely upon the mayor, especially in disputes in the service and trade industries, which are most likely to affect the comfort and convenience

⁸ 1941 amendments authorize appointment of special boards of inquiry and public reporting on causes of all disputes which Board of Mediation certifies it cannot settle.

of the public. Other disputes, such as those in manufacturing, are more likely to be taken to higher Government agencies.

Although all mayors of necessity would intervene in disputes which were likely to interrupt the public services, some individual mayors have entered into the field of industrial relations much more than others. If both sides feel that a mayor is unbiased and concerned only with the public good, and if he is an astute mediator, a mayor is in a position to accomplish a great deal in the prevention and settlement of disputes. A public official who is dependent upon the popular vote, however, is somewhat reluctant to intervene in disputes when any decision which he might make may alienate certain portions of his constituency.

For this and other reasons, the mayor usually prefers to appoint a committee of private citizens instead of taking part in the negotiations himself. Several cities at the present time have continuing mayor's committees to which disputes may be referred. Others have been appointed, served for a short time, and then disbanded when the number of disputes declined. Some have been created with a distinctly partisan make-up and were, therefore, ineffective from the start.

Two cities, Toledo, Ohio, and Newark, N. J.⁹ now maintain labor boards which can be considered a part of the regular municipal government. The members of these boards are private citizens who serve without pay, an equal proportion representing employers, the union, and the public. In each case the city maintains the paid director and staff. The Toledo board has been in operation since the summer of 1935; the Newark board was established in the spring of 1937. They have handled hundreds of cases and have been effective both in the prevention and in the settlement of employer-employee disputes.

⁹ See Monthly Labor Review, November 1939, p. 1045, for a detailed description of the operation of these two boards. The Newark board was terminated in 1941 about the time the State of New Jersey established a board of mediation in the State department of labor.

Cooperative Movement

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Consumers' Cooperative Movement

Probably the best-known form of consumers' cooperation in this country is the cooperative store handling groceries or general merchandise. As a matter of fact, the store associations do form the largest group and account for the largest proportion of total cooperative business. There are, however, many other lines of activity in which cooperation has made at least a start, and there is probably greater diversification in cooperative effort today than at any time in the history of the movement in the United States.

There has been considerable variation in the development of different types of associations on a geographical basis. Store associations are now found in practically every State in the Union, though they still appear in largest numbers in the North Central States. The petroleum associations have reached their greatest development in the Mississippi Valley States, with a smaller growth in the Mountain and Pacific States; the East has few such organizations. The bakery societies on the other hand are all in the States of Massachusetts, New York, and New Jersey, although there are a few store associations in other parts of the country which run a bakery as one department of the merchandising business.

Until the past few years cooperative housing has been concentrated in one metropolitan area—New York City—and has consisted of apartment buildings. Now there are several associations in the Middle West which have built 1-family detached houses for their members.¹

A group of petroleum and fuel-oil associations has developed in Texas. Aside from these, however, there was little cooperative activity in the South until the advent of the electricity associations formed under the rural electrification program. Practically all other sections of the country also have associations of this type now. Washington State had a number of cooperative power associations which had been in existence for many years before the REA program was inaugurated.

Telephone associations are found here and there in nearly every part of the country, but 80 percent are in the North Central States.

Credit unions also have been started in every State in the Union. Although New England was the birthplace of the cooperative credit movement in this country, that section has yielded first place as regards number of associations to the East North Central and West North Central regions. In this connection it may be noted that although the South still has few distributive and service cooperatives, some of the States there have been very receptive to the idea of cooperative credit. Among these may be cited Florida, Georgia, Kentucky, Louisiana, North Carolina, Tennessee, and Texas, each of which had more than 100 credit unions in operation at the end of 1939. The expansion of the credit-union movement was greatly facilitated by the passage of the Federal Credit Union Act, in June 1934. By the end of 1939 over

¹ For data on these associations, see Monthly Labor Review, February 1941.

3,500 associations had been formed under that act, whereas State associations (dating from as early as 1908) numbered 4,771.

Much of the cooperative development is in rural sections. Most of the telephone associations and a large proportion of the insurance associations are in the country or in small towns. The electricity associations are almost entirely rural. Analysis of the store associations and their members, in relation to population, in 1936 indicated that of 1,668 associations in cities, towns, and villages, more than three-fourths of the associations, over four-fifths of the membership, and nearly three-fourths of the business done in 1936 were in places with a population of 5,000 or less. For the whole group the cooperative membership² formed approximately 1 percent of the total population in places where the associations were located. However, although the cooperators formed only 0.05 percent of the population in cities of a million or over they formed about 11 percent in places of 1,000-5,000, nearly 24 percent in places of 500-1,000, and 47 percent in places of less than 500.

The bakeries, consumers' creameries, housing associations, restaurants, medical-care associations, and credit unions are practically all in industrial centers. As the above figures indicate, the large cities have proved to be the most difficult locale in which to obtain a foothold for the store societies. There are several reasons for this: The efficiency of private retail distribution; the low prices in the chain stores, with which the cooperative with its small purchasing power cannot compete on a price basis, unless it has the advantage of a cooperative wholesale in nearby territory; the difficulties of bringing city people together in homogeneous groups and of contending with long-established buying habits of the housewife.

That cities are not invulnerable to cooperative attack, however, is attested by the growing number of American cities in which there are associations of some size that are in apparently successful operation.

Operations in 1939³

In 1937 the Bureau of Labor Statistics made a general survey of consumers' cooperative associations of all kinds, for the year 1936. Although the coverage was not complete, such a large proportion of associations reported that the Bureau felt justified, for the first time, in making estimates of total number of associations, membership, and business done.⁴ No general survey has been made since that time but for each succeeding year the Bureau has obtained reports for a sufficiently large sample of associations to indicate the general trend. On the basis of the 1936 estimates and the later percentages of change shown in the three items by the reporting sample, the following table of estimates for the year 1939 has been constructed. In using the percentages of change since 1936, however, it was recognized that the reporting sample consisted of better-than-average associations and therefore the percentages were lowered somewhat. Although there may be a considerable margin of error in either direction, it is felt that the estimates given are quite conservative.

² Members only; not counting their families.

³ For data on cooperative developments during 1939 and statistics of operation in that year, see Serials Nos. R. 1092 and R. 1158, respectively, or Monthly Labor Review, March and January, February, March, May, August, and September 1938.

⁴ For details see Bulletin No. 659, or Monthly Labor Review, issues of November 1937, and January, February, March, May, August, and September 1938.

TABLE 1.—Estimated number, membership, and business of consumers' cooperatives, 1939

Type of association	Number of associations	Members	Amount of business
<i>Local associations</i>			
Retail distributive associations.....	4,350	925,000	\$211,653,000
Stores and buying clubs.....	2,900	450,000	120,053,000
Petroleum associations.....	1,400	450,000	86,000,000
Other distributive associations.....	50	25,000	5,600,000
Service associations.....	914	576,450	5,815,000
Associations providing rooms, meals, or both.....	100	22,000	1,600,000
Medical-care associations.....	50	20,000	500,000
Funeral associations.....	¹ 36	31,250	190,000
Housing associations.....	53	4,200	² 2,750,000
Electricity associations.....	575	³ 485,000	(⁴)
Miscellaneous.....	100	14,000	775,000
Telephone associations ⁵	5,000	330,000	5,485,000
Credit unions.....	¹ 8,315	2,421,000	⁶ 240,500,000
Insurance associations ⁷	1,800	⁷ 6,800,000	⁸ 103,375,000
<i>Federations</i>			
Wholesale associations.....	¹ 38	(⁹)	56,728,406
Interregional.....	¹ 2	¹⁰ 21	¹ 2,504,599
Regional.....	¹ 23	¹⁰ 2,163	52,472,534
District.....	¹ 13	¹⁰ 160	¹ 1,751,273

- ¹ Actual figure; not an estimate.
- ² Gross income.
- ³ Number of customers.
- ⁴ Data not sufficient to warrant computation of an estimate.
- ⁵ 1936; data not sufficient to warrant later computation.
- ⁶ Amount of loans made.
- ⁷ Policyholders.
- ⁸ Gross premium income.
- ⁹ Cannot be totaled, as subgroups are not mutually exclusive.
- ¹⁰ Number of affiliated associations.

In order to round out the picture, data are given in table 2 for the labor banks, mutual savings banks, and the whole group of mutual insurance associations, all of which have some cooperative features.

TABLE 2.—Semicooperative organizations in the United States in 1939

Type of organization	Number of associations	Number of members	Amount of business	Total assets	Net worth
Labor banks ¹	4	(²)	³ \$23,847,294	\$26,931,651	\$2,684,911
Building and loan associations ⁴	8,328	6,499,511	⁵ 710,058,596	5,674,262,030	(²)
Mutual savings banks ⁶	552	⁷ 13,266,172	⁸ 10,432,803,000	11,798,804,000	1,203,350,000
Mutual insurance companies ⁸	1,279	(²)	⁹ 276,015,960	515,582,733	(²)

- ¹ Data as of June 30, 1940. Information furnished by Industrial Relations Section, Princeton University.
- ² No data.
- ³ Deposits.
- ⁴ Information furnished by United States Building and Loan League.
- ⁵ Mortgage loans made in 1939.
- ⁶ From Annual Report of the Comptroller of the Currency for year ended Oct. 31, 1939; data are as of June 30, 1939.
- ⁷ Depositors.
- ⁸ 1936. From Directory of Mutual Insurance Companies in the United States (fire and casualty) published by American Mutual Alliance, Chicago, Ill.; figures here given represent remainder after deduction of associations included in Bureau of Labor Statistics study.
- ⁹ Premiums written.

Wholesale Associations

At the end of 1939 there were 23 regional wholesale cooperatives, each operating in one or more States and handling consumer goods,⁵ and 13 district associations whose trading area was less than State-

⁵ There are also many farmers' wholesales handling only farm supplies, which are not included here.

wide. In addition 2 associations were federations of regional associations. Data showing sales in various lines of goods in 1939 indicate that the largest volume of business is done in petroleum products. Household goods, clothing, and groceries accounted for about 10 percent of the total.

Summary data on operations of the three types of wholesales are given in table 3.

TABLE 3.—Operations of cooperative wholesale associations, 1939¹

Item	Interregional associations	Regional associations	District associations
Number of associations	2	23	13
Affiliated associations	21	2,163	160
Amount of business	\$2,504,599	\$52,472,534	\$1,751,273
Net earnings	² \$154,922	\$1,600,137	\$102,272
Patronage refunds	² \$154,922	\$1,122,590	\$62,597
Share capital	² \$237,000	\$2,846,692	³ \$98,697
Total assets	² \$491,086	\$8,439,721	⁴ \$317,102
Value of goods produced		\$4,497,154	\$594,930

¹ Data relate only to wholesales handling consumer goods.

² 1 association only.

³ 8 associations only.

⁴ 9 associations only.

Trend of Consumers' Cooperative Wholesaling, 1929 to 1939

Since 1929 the Bureau of Labor Statistics has been gathering data annually on the operations of cooperative wholesale associations handling consumer goods. Table 4, constructed on the basis of these figures, shows the trend during the period 1929 to 1939. During this period the number of wholesales handling consumers' goods nearly tripled, rising from 8 to 23. This does not mean that 15 new cooperative wholesales were established during the interval. Only 8 of the associations in operation at the end of 1939 were new associations; the others had entered the tabulations at different times during the period as they began to handle consumers' goods.

TABLE 4.—Development of consumers' cooperative wholesaling in the United States, 1929 to 1939¹

Year	Number of associations	Number of member associations	Amount of business	Net earnings	Patronage refunds	Number of associations	Number of member associations	Amount of business	Net earnings	Patronage refunds
1929	8	377	\$7,023,296	\$154,882	\$92,181	100.0	100.0	100.0	100.0	100.0
1930	8	475	7,670,589	203,371	152,960	100.0	126.0	109.2	131.3	165.9
1931	11	666	8,566,946	223,115	161,714	137.5	176.7	122.0	144.1	175.4
1932	11	850	9,560,630	190,929	137,019	137.5	225.4	136.1	123.3	148.6
1933	13	1,085	14,238,059	264,906	178,909	162.5	287.8	202.7	171.1	194.1
1934	18	1,463	21,518,414	582,416	350,695	225.0	388.0	306.4	376.2	380.4
1935	20	1,692	33,277,647	1,002,943	541,625	250.0	448.7	473.8	647.9	587.5
1936	21	1,824	41,370,101	1,123,943	775,773	262.5	483.7	589.1	726.0	841.5
1937	23	1,930	51,868,466	1,467,904	989,184	287.5	511.8	738.5	948.2	1073.0
1938	23	2,081	49,774,982	1,224,559	947,855	287.5	551.9	708.7	791.0	1028.1
1939	23	2,163	52,472,534	1,600,137	1,122,590	287.5	573.6	747.1	1033.6	1217.6

¹ Figures partly estimated; data relate only to regional wholesales.

Operations of Cooperative Burial Associations, 1939

On the basis of reports to the Bureau of Labor Statistics it is estimated that the cooperative burial associations in the 5 midwestern States of Iowa, Minnesota, Nebraska, South Dakota, and Wisconsin conducted about 1,100 funerals in 1939 and had a total income for their services of over \$187,000. These are associations providing complete funeral services. In addition there are a few associations which buy caskets cooperatively, the funeral then being conducted by a private undertaker.¹ It is estimated that these provided about 65 caskets at an estimated total of nearly \$2,400. The funeral associations are estimated to have had a combined membership of over 29,000 at the end of 1939, and the casket associations about 1,600.

Most of the associations for which the Bureau has records have shown a steady growth in membership since their formation. The number of funerals conducted and the gross income have varied erratically, however, depending on the incidence of death among the member families.

The majority of the associations have a more or less definite territory for their operations. The older associations usually confined their services to a radius of 20-35 miles around the town where the funeral home was located, and one organization covered "40 townships." The tendency, however, has been toward a greater coverage of territory and of families. One of the associations, which in the beginning restricted its services to the region within a radius of 20 miles of its headquarters, in 1933 removed that restriction and now conducts funerals as far away as Minneapolis and St. Paul, a distance of 50 to 60 miles.

Many of the more recently organized associations cover a whole county or even more. Of the associations in operation at the end of 1939, four in Iowa, seven in Minnesota, one in Nebraska, and one in South Dakota are organized on a county basis. Iowa, Minnesota, South Dakota, and Wisconsin each have one association serving several counties. Since 1932 no association, as far as the knowledge of this Bureau goes, has been formed on the old town basis.

Funds and Membership Procedures

As is usual in consumers' cooperative associations, the capital of the funeral and casket associations is provided by the members.

These associations are more generally of the nonstock than the capital-stock type; only a few of the South Dakota associations and the federations have share capital. These latter provide that shares shall be nontransferable, except on the books of the association.

In all of the others the member receives, not a share of stock, but a nontransferable membership certificate. The advantage of the

¹ Mutual aid or benefit associations which pay cash benefits upon the death of a member are not covered in this article, nor are the funeral-aid associations in Washington State which have developed under Grange auspices. The latter are a combination of contract undertaking service and mutual aid. They operate on an assessment basis, and when a member dies his family receives the total amount of the previous assessment, minus a few cents per member for administrative expenses. The State Grange has made a contract with the Washington State Undertakers' Association, whereby private undertakers who ratify the contract agree to provide complete funeral service for \$165.

membership-certificate plan, to the association, is that unlike share capital the certificate does not draw interest and upon the death of the member and his family it goes into a special fund to be used for free burials. The share of stock remains a liability to the association as long as the association exists. Membership certificates are repayable only if the member family moves from the territory.

The membership fee—or in the few capital-stock associations, the share—is almost invariably \$5. Only a few associations charge \$10, although some associations penalize the person who postpones joining the association until he wishes to use its facilities, by charging him double the regular fee. Any family residing within the territory served by the association is welcome to join, though one organization in its bylaws prohibits from membership any undertaker except the one employed by the association.

In the federations the capital is provided by the member associations. Only cooperative associations are accepted into membership in the three federations.

In general the membership is a family membership covering parents, single children under 30 years of age, and any dependent relatives living with the family. It continues in force during the lifetime of parents or dependent relatives and until the children marry or reach 30 years of age.

Service Charges and Amount of Business

Among the cooperative burial associations reporting to the Bureau of Labor Statistics, the average cost of the funerals held in 1939 was \$166. Each association was asked what was the average cost per funeral to the patron in 1939. The lowest average, \$84, was reported by one association in Iowa. The highest average was for the association in Nebraska. The following statement shows the range of averages reported by the associations and the State average:

	<i>Range</i>	<i>State average</i>
Iowa.....	\$84—\$225	\$142
Minnesota.....	111—231	172
Nebraska.....	250	250
South Dakota.....	200	200
Wisconsin.....	150	150

These are averages for adult funerals; also, they do not include associations which merely provide caskets.

These charges include "complete funeral service," meaning by this the embalming of the body, funeral direction, casket with cover box of wood, and use of hearse, lowering device, and grave cover. Generally the price of the casket determines the cost of the funeral, as the charge for the other services is standard. If a steel vault is desired, its cost is extra. Other charges not included in the above prices are the digging of the grave and the rental of automobiles for the mourners.

Business to the amount of \$187,204 was done by the 31 funeral associations, and that of the 5 associations providing caskets only was \$2,359. More than 1,100 funerals were conducted by the funeral associations during the year, and the casket associations furnished coffins for 64 funerals which were conducted by private undertakers.

Of 20 funeral associations reporting, 2 had had fewer than 10 funerals during the year, 5 had had between 10 and 25, 8 had had between 25 and 50, 3 had had between 50 and 100, and 2 had had 100 or more.

The following table shows the business done in 1939, by States, for each type of association.

Membership and business¹ of funeral and casket cooperatives, 1939, by States

State and type of association	Number of associations	Number of members	Number of funerals	Amount of business
All States.....	36	31,247	1,180	\$189,563
Funeral associations.....	31	29,647	1,116	187,204
Casket associations.....	5	1,600	² 64	2,359
Iowa:				
Funeral associations.....	8	6,082	247	35,598
Casket associations.....	1	200	² 4	205
Minnesota:				
Funeral associations.....	15	³ 21,180	735	128,806
Casket associations.....	4	1,400	² 60	2,154
Nebraska: Funeral associations.....	1	65	8	2,000
South Dakota: Funeral associations.....	5	1,699	91	15,502
Wisconsin: Funeral associations.....	2	621	35	5,298

¹ Figures are partly estimated.

² Number of caskets provided for funerals.

³ Includes 13,000 persons who were members of the local cooperatives affiliated with the 2 regional federations.

Earnings and Patronage Refunds

The great majority of the associations for which information is available provide in their bylaws for the return of patronage refunds. However, with few exceptions the burial associations do not follow the practice of Rochdale cooperatives, i. e., of making their charges conform to the current prices. Rather, most of them set their rates as low as possible, consistent with the financial stability of the organization. One of the larger associations, which retains an undertaker on contract, specifies in its bylaws that the charges shall be set at "as near cost as practicable," and that the price of the funeral shall be set at a sum covering the price of the casket and other supplies furnished, plus the amount paid the funeral director in accordance with the association's contract with him, plus a charge for use of hearse, plus enough to meet current operating expenses and fixed charges on any borrowed capital.

The price policy followed does not, however, generally yield a surplus. Thus, only eight associations reported having any such surplus or net gain on the year's operations. These had combined earnings of \$7,792. One association, the smallest reporting, had a loss of \$804. Two associations made patronage refunds aggregating \$387. The federation with a mortuary department also returned earnings of several thousand dollars, but as its report did not make a division of refunds by departments, it was not possible to ascertain how much was refunded on patronage by the mortuary department.

Cooperation in the Building of Homes¹

Until comparatively recently, cooperative activity in the field of housing in the United States had been limited to apartment houses which had been built or purchased by cooperative groups. These were concentrated in Greater New York City.² Within the last 2 years, however, several cooperative developments providing single-family dwellings have been launched. Although none of these has as yet reached any considerable proportions as regards number of families housed, together they form a significant development not only in the cooperative movement but in the field of low-cost, non-profit housing. The present report deals with seven such projects which have come to the attention of the Bureau of Labor Statistics. These are situated in Penn-Craft, Pa.; Iona, Idaho; Chapel Hill, N. C.; Madison, Wis.; Minneapolis and St. Paul, Minn.; and Greenbelt, Md.³

By October 1940, 6 of these projects had a total of 157 dwellings either completed or in some stage of construction. In the seventh, ground had not yet been broken although land had been obtained.

In three of the associations (Penn-Craft, Iona, and Chapel Hill), some or all of the actual building work is done by the members themselves, by the exchange of labor; in all but one of the others, by a private contractor under association control (in Madison the members make individual contracts).

Three associations have taken over unimproved land and opened it for development, and two of these have done a complete job of community planning and lay-out, as well as of financing and providing the necessary utilities. The achievement of most of the other associations has been that of the purchase of city lots, of negotiating for architects' and contractors' services and for Federal Housing Administration insurance on loans, of controlling subcontracts, of making bulk purchases of materials, and of controlling construction.

These developments present an interesting variety and represent housing in various stages on the road to completely cooperative housing enterprise. All lack the final characteristic of Rochdale cooperative housing procedure—permanent retention by the association of the title to land and dwellings. In a thoroughgoing cooperative, the member would hold shares of stock in the association to the value of his house and land. The construction of dwellings would be carried on by the association, and the member would never receive the title to the house he occupied, but only a lease running indefinitely for as long as he was acceptable to the other members. Several of the associations started out with the idea of adhering to strict cooperative practice. Difficulties of financing the project and of obtaining Fed-

¹ For detailed description of the various projects see Monthly Labor Review, February 1941, or Serial No. R. 1224.

² For information regarding such cooperative housing see Monthly Labor Review, November 1937, p. 1146, or Serial No. R. 656.

³ Although using land in the Government-built town of Greenbelt, the association here described is a voluntary independent association entirely distinct from the Government enterprise. Cooperative housing projects are known to be under consideration in several other communities, as for instance, Los Angeles and San Francisco, Calif., Chicago, Ill., Detroit, Mich., and North Kansas City, Mo. None of these were sufficiently far advanced to warrant inclusion in the Bureau's survey.

eral insurance, on such a basis, led to the abandonment of the idea of collective ownership.

These associations have, however, made available, through joint effort, well-built houses of moderate cost to persons who would otherwise not have been able to afford them. They have effected savings in utilizing for a whole group of houses the services of a single architect and contractor, and in making bulk purchases of many items of material and equipment.

Further development is possible on land already owned by the association in Chapel Hill, Madison, Minneapolis, and St. Paul, and on leased land in Greenbelt. Present capacity has been reached in Penn-Craft.

Characteristics of Housing Groups

Public employees and employees of a nearby university formed the majority of the members in Madison and Greenbelt, university building-service employees in Chapel Hill, and coal miners in Penn-Craft. The membership of the Iona cooperative was drawn from a variety of occupations. The annual incomes of the members averaged about \$1,700 to \$1,800 in Minneapolis, and ranged from \$1,600 to \$4,500 in Madison, and from \$1,248 to less than \$2,400 in St. Paul. Data on this point are not available for the other projects.

Building Sites

Three of the groups (Penn-Craft, Chapel Hill, and Madison) purchased on an acreage basis undeveloped and unimproved land which they plotted into housing sites. The Greenbelt association will utilize land unimproved but for which all improvements are available from the planned community of which the housing project will be a part. In Minneapolis and St. Paul the association took over city lots, already improved, which had reverted to the State because of tax delinquencies. In the seventh group (Iona) the member was required to have title to a building lot before being admitted to participation in the scheme; for such land, water and electricity, but not sewers, were available.

Land purchase was involved in all cases except that of the Greenbelt association. The dwellings of the members of that association will be erected on land leased from the Federal Government.

The associations studied include rural, small-town, and urban developments. In the Twin Cities the land acquired was within the city limits but several miles from the center of town, in Chapel Hill and Madison it was in a suburb of the city, in Iona and Greenbelt within towns of several hundred families, and in Penn-Craft it was in a rural district though within a few miles of several good-sized towns and cities.

Building lots of generous size are provided. In Chapel Hill the lots average 125 by 160 feet, in Madison 60 by 120 feet, and in Minneapolis 50 and 60 by 125 feet. The St. Paul association, buying 40-foot lots, replotted them into 60-foot widths having a depth ranging from 112 to 126 feet. In Penn-Craft the individual holdings range from 1½ to 3 acres each.

Types and Cost of Houses

All of the houses being built on these sites are single-family dwellings and the majority are of frame construction. All of the Penn-Craft houses, however, are of native stone quarried nearby. At Madison, the buildings are more or less evenly divided between those built of wood and those made of concrete blocks. Two-story houses form nearly all of the dwellings at Penn-Craft, one-story houses predominate in the Iona, Minneapolis, and St. Paul projects, while both types are found in Chapel Hill and Madison. The dwellings in the projects visited⁴ are equipped with all modern conveniences, including water and sewer systems, electricity, central heating, and garage. Both traditional and modern styles of architecture are being utilized.

Sizes range from the two-bedroom house with living room, kitchen (with dinette), and bath, to the four-bedroom house with living room, kitchen, dining room, and recreation room. The bid cost per house has ranged from \$4,100 to \$6,500 in Madison, from \$3,750 to \$5,400 in St. Paul, from \$4,100 to \$6,000 in Minneapolis, from \$2,750 to \$5,000 in Chapel Hill, and from \$3,500 to \$6,500 in Greenbelt.⁵ In the case of Penn-Craft and Iona it is impossible to fix a definite cost, as the members have supplied so much of the construction labor. The loan to cover materials was \$2,000 in Penn-Craft⁶ and \$1,500 in Iona.

In the three projects operating on the "self-help" plan (Penn-Craft, Iona, and Chapel Hill), the financing has been on a different basis from that of the other groups. In the case of Penn-Craft the funds from which the housing loans have been made were donated to the American Friends Service Committee, a Quaker organization. In Iona, money remaining from an FERA grant made under the terms of the Federal Relief Act has been used as a revolving loan fund, and by the payment of interest, fines, etc., has been nearly doubled since the association has been in operation. In Chapel Hill the housing funds have been supplied by the Service Employees Corporation at the University of North Carolina and by a private lending agency. In all of these cases the loans have been used only to cover the cost of materials. The actual work of excavation and construction has been done entirely by the members at Penn-Craft and Iona, while in Chapel Hill certain parts of the work have been done by them.

The initial financing in Madison was done through the issuance of capital stock in a required amount per member, sufficient to cover cost of land and water system; in Greenbelt by the issuance of capital stock and a special service-charge assessment; and in Minneapolis and St. Paul by the issuance of membership certificates and the sale of lots at a mark-up sufficiently high to cover the cost of public-improvement assessments and organization expenses. The initial cost to the member averages \$22 in Greenbelt, \$210 in Chapel Hill, \$350 in St. Paul, \$375 in Minneapolis, and \$500 in Madison. Except for Greenbelt, these figures cover the cost of the land to the member. The lower

⁴ Madison, Minneapolis, St. Paul, and Penn-Craft.

⁵ In the case of Greenbelt these figures are for standard plans; houses deviating from these plans will cost more.

⁶ In Penn-Craft it is estimated that the completed house is worth about \$3,000 for tax purposes and at least \$4,000 in the real-estate market. No actual cost-to-member figures are available, however.

cost in the Twin Cities as compared to Madison is in part due to the fact that the cost of the land to the association was based not upon current prices but upon the amount of the tax delinquency of the former owners.

All of these associations have arranged for FHA insurance on the building loans. In the case of the St. Paul members, such loans were obtained from the local credit-union chapter. Loans for the members of the other three associations have come from private lending agencies.

In order to obtain FHA insurance on low-cost houses, the borrower must have an equity equal to 10 percent of the cost of the house. Cost of land, if equal to 10 percent, is regarded as such an equity. Therefore in many cases the land formed the necessary equity. In cases in which the value of the land fell below 10 percent of the cost of the house, the member was required to furnish additional capital to meet the difference. He also had to provide for certain extra charges ("closing costs") which may increase the total by \$50 or \$100 more. The "down" cost to the member, therefore, before construction can be begun has ranged from \$450 to \$650 in Madison, \$425 to \$600 in Minneapolis, \$375 to \$540 in St. Paul, and \$372 to \$672 in Greenbelt.

In Penn-Craft, Chapel Hill, Minneapolis, and St. Paul, the association exercises close supervision over purchases of materials, sub-contracts, and the construction process. The Penn-Craft, Minneapolis, St. Paul, and Greenbelt organizations are each using the services of a single architect and contractor. At Madison each member chooses his own architect and contractor. Joint purchase of equipment, where a saving could be made, has been carried on for the whole group of houses in Chapel Hill, St. Paul, and Minneapolis, and the same procedure is planned for the Greenbelt project.

In most of the seven associations some measure of control is exercised over the style of architecture, in order that it shall not deviate too widely from that of other dwellings nearby. The Madison association also requires that the total house cost shall not be less than \$3,000. All but the "self-help" groups also require that in case a member wishes to sell his house it must first be offered to the association. If the association does not exercise its option, the member may sell to an outsider, but the purchaser must be acceptable to the other members.



Farmers' Cooperative Purchasing

Data collected by the Farm Credit Administration indicate a steady growth in number of farmers' cooperative purchasing associations as well as in their membership and business, up to 1937-38. That agency estimates that in the 1938-39 marketing season the 2,600 farmers' cooperatives whose function is the purchase of farm and household supplies for their members had an aggregate membership of 890,000 and a business of \$335,000,000. Whereas these associations formed only 3.6 percent of all farmers' cooperatives in 1913, by 1938-39 they formed nearly one-fourth of the total. During the period from 1913 to 1938-39, their sales increased from 1.9 percent of the total business done by farmers' cooperatives to 16.0 percent.

In 1915 their membership was less than 10 percent of the total, whereas by 1938-39 it had increased to 27.0 percent.

The following table, compiled from reports of the Farm Credit Administration, shows the trend since 1913.

Number, membership, and business of farmers' cooperative purchasing associations, 1913 to 1938-39

Year	Associations		Estimated membership		Estimated business	
	Number	Percent of all associations ¹	Number of members	Percent ²	Amount	Percent ³
1913.....	111	3.6			\$5,928,000	1.9
1915.....	275	5.1	59,503	9.1	11,677,000	1.8
1921.....	898	12.2			57,721,000	4.6
1925-26.....	1,217	11.3	247,000	9.1	135,000,000	5.6
1929-30.....	1,454	12.1	470,000	15.2	190,000,000	7.6
1930-31.....	1,588	13.3	392,000	13.1	215,000,000	9.0
1931-32.....	1,645	13.8	533,000	16.7	181,000,000	9.4
1932-33.....	1,648	15.0	542,700	18.1	140,500,000	10.5
1933-34.....	1,848	17.0	692,000	21.9	152,000,000	11.1
1934-35.....	1,906	17.8	790,000	24.1	187,000,000	12.2
1935-36.....	2,112	20.1	950,000	26.0	254,000,000	13.8
1936-37.....	2,601	24.2	856,000	26.2	313,400,000	14.3
1937-38.....	2,600	23.8	900,000	26.5	350,000,000	14.6
1938-39.....	2,600	24.3	890,000	27.0	335,000,000	16.0

¹ I. e., of all farmers' marketing and purchasing associations listed by Farm Credit Administration.

² Percent of membership of all associations listed by Farm Credit Administration.

³ Percent of business done by all associations listed by Farm Credit Administration.



Credit Unions in 1939¹

Credit unions are now found in every State in the Union. As their name implies, they are cooperative associations whose function is the supplying of credit to their members. Generally they serve small borrowers who can offer little or no security except their own personal integrity. When it is remembered that a very large percentage of all credit-union loans are "character loans," i. e., loans made without any security except the personal note of the borrower, it becomes evident how important the personal factor is.

As various analyses have shown, remedial loans, for such purposes as the payment of cost of sickness or death or accumulated debts, form a very large proportion of the total loans made. This is especially true of the early experience of nearly all credit unions. Later, as the organizations accumulate funds and the early cases of need are taken care of, they expand their lending to such other constructive purposes as tuition for educational courses, house repairs and improvement, payment of insurance premiums, and taxes.

Credit-union funds come in the main from the share capital provided by the membership. Obviously, not all of the members can be borrowers, and indeed a certain percentage of the members of all credit unions never avail themselves of the credit facilities of the organization but join because of their desire to support the cause and because of the favorable returns on their investment.

¹ For detailed statistics and discussion of credit unions, see Monthly Labor Review, issues of April, June, and October 1938, April and August 1939, and March and September 1940.

The principle of open membership is one of the main tenets of Rochdale cooperation. By the very nature of credit-union operation however, this principle has to be modified somewhat in credit cooperatives. In order to insure the safety of loans made, it is essential that the members know one another and thus be able to judge the trustworthiness of those who apply for loans. For this reason it is usually required by the statutes under which credit unions operate that the organizations shall be formed among persons having some common bond of employment, religious faith, association, etc., and that the membership shall be limited to persons within that group. Within this field, membership is open to all trustworthy persons.

The general survey of cooperative associations (including credit unions) made by the Bureau of Labor Statistics for 1936 indicated that 61 percent of the credit unions had been formed among the employees of industrial businesses, and not quite 25 percent were composed of public employees. No data on this point are available since 1936. It is known, however, that credit unions have become increasingly popular among the members of consumers' cooperatives and many have been formed by them in the past 3 years.

Additional evidence of mutual interest between the credit union movement and that of general consumers' cooperatives was given by the affiliation, as a fraternal member, of the Credit Union National Association with the Cooperative League of the U. S. A. in March 1939.

Trend of Credit-Union Development

Data gathered by the Bureau of Labor Statistics since 1929 show an almost unbroken record of credit-union expansion in nearly every State since its law was passed authorizing such associations. The tempo of development was greatly accelerated, however, by the passage of the Federal Credit Union Act in 1934.

The year 1939 represented the high point up to that time, as regards number of associations, membership, and loans made in every State.

The records for the years prior to 1936 are not sufficiently complete to permit estimates of total credit-union operation for the United States. Table 1 gives for the years beginning with that year the total number of associations and estimates of total membership and loans made.

TABLE 1.—*Estimated relative growth of State and Federal credit unions, 1936 to 1939*

Item and year	Total	State-chartered associations	Federal-chartered associations
Number of credit unions:			
1936.....	5,437	3,575	1,862
1937.....	6,400	3,900	2,500
1938.....	7,265	4,250	3,015
1939.....	8,315	4,771	3,544
Membership:			
1936.....	1,209,902	893,932	315,970
1937.....	1,546,400	1,013,900	532,500
1938.....	1,931,400	1,241,000	690,400
1939.....	2,421,000	1,475,000	946,000
Amount of loans:			
1936.....	\$112,134,577	\$96,476,517	\$15,658,060
1937.....	\$139,355,200	\$102,770,200	\$36,585,000
1938.....	\$186,302,800	\$134,513,800	\$51,789,000
1939.....	\$240,500,000	\$161,000,000	\$79,500,000

Operations in 1939

Summary figures for both Federal- and State-chartered credit unions in 1939 are given in table 2.

TABLE 2.—*Summary of operations of credit unions, 1939*

Item	Total	State-chartered associations	Federal-chartered associations
Total number of associations.....	8,315	4,771	3,544
Number reporting.....	7,841	4,677	3,164
Number of members.....	2,300,422	1,454,435	845,987
Number of loans during year.....	1,971,851	1,306,654	665,197
Amount of loans—			
During year.....	\$229,874,347	\$158,848,287	\$71,026,060
Outstanding at end of year.....	\$148,773,153	\$111,305,503	\$37,467,650
Paid-in share capital.....	\$160,032,414	\$116,994,824	\$43,037,590
Reserves.....	\$10,926,108	\$9,664,917	\$1,261,191
Total assets.....	\$193,300,538	\$145,803,444	\$47,497,094
Net earnings for year.....	\$6,701,458	\$4,564,708	\$2,136,750
Dividends on share capital.....	\$4,516,586	\$3,141,506	\$1,375,080

In at least 43 States, the District of Columbia, and Hawaii the credit unions have a State-wide association or league. These State leagues are in turn affiliated to a Nation-wide association, the Credit Union National Association, with headquarters in Madison, Wis.

Of 45 such organizations, 32 reported, indicating affiliated associations numbering 4,084 credit unions (with a combined membership of more than a million persons); this represented 65.0 percent of all associations in those States.



Status of Labor Banks, 1940

Continuing the upward trend shown since 1938, the labor banks showed increases in deposits, total resources, and net worth in 1939–40 as compared with 1938–39. The resources of the 4 banks totaled nearly 27 million dollars on June 30, 1940, or 4.3 percent above the same date of the previous year. The combined net worth (capital, surplus, and undivided profits) has shown an uninterrupted rise since 1934.

That these increased totals in 1939–40 are largely the result of gains made by the Amalgamated banks is shown when comparison is made of the figures for individual banks for 1938–39 and 1939–40. Thus the Union and Telegraphers' banks both showed gains in net worth but decreases in deposits and total resources. The Amalgamated banks both had gains in all three items, those in deposits and total resources being more than sufficient to offset the decreases of the other two banks. Data for each of the four banks, as of June 30, 1940, supplied to the Bureau of Labor Statistics by the Industrial Relations Section of Princeton University, are shown in table 1.

TABLE 1.—*Status of individual labor banks, as of June 30, 1940*

Name and location of bank	Capital, surplus, and undivided profits	Deposits	Total resources
All banks.....	\$2,684,911	\$23,847,294	\$26,931,651
Amalgamated Trust & Savings Bank, Chicago, Ill.....	786,934	9,448,530	10,233,324
Union National Bank, Newark, N. J.....	474,183	3,035,006	3,533,792
Amalgamated Bank of New York, N. Y.....	704,652	7,150,670	8,032,754
Telegraphers' National Bank, St. Louis, Mo.....	719,141	4,213,089	4,971,781

Table 2 shows the trend of the labor banking movement since 1920.

TABLE 2.—*Development of labor banks in the United States, 1920 to 1940*¹

Date	Number of banks	Capital, surplus, and undivided profits	Deposits	Total resources
December 31—				
1920.....	2	\$1, 154, 446	\$2, 258, 561	\$3, 628, 867
1921.....	4	1, 535, 869	9, 970, 961	12, 782, 173
1922.....	10	2, 793, 162	21, 901, 641	26, 506, 723
1923.....	18	5, 575, 252	43, 324, 820	51, 496, 524
1924.....	26	8, 333, 024	72, 913, 180	85, 325, 884
1925 ²	36	12, 536, 901	98, 392, 592	115, 015, 273
1926.....	35	12, 751, 885	108, 743, 550	126, 533, 542
1927.....	32	12, 029, 676	103, 290, 219	119, 818, 416
1928.....	27	11, 358, 705	98, 784, 369	116, 307, 256
June 30—				
1929.....	22	10, 495, 079	92, 077, 098	108, 539, 894
1930.....	14	7, 217, 836	59, 817, 392	68, 953, 855
1931.....	11	6, 865, 378	50, 949, 570	59, 401, 164
1932.....	7	3, 443, 396	22, 662, 514	28, 564, 797
1933 ³	4	2, 161, 421	15, 338, 505	18, 653, 355
1934.....	4	2, 038, 433	15, 899, 849	19, 168, 713
1935.....	4	2, 051, 943	17, 262, 281	19, 692, 385
1936.....	4	2, 155, 221	20, 302, 297	22, 858, 772
1937.....	4	2, 189, 671	21, 679, 590	24, 359, 340
1938.....	4	2, 503, 899	21, 013, 099	23, 785, 086
1939.....	4	2, 544, 538	22, 923, 861	25, 813, 638
1940.....	4	2, 684, 911	23, 847, 294	26, 931, 651

¹ Data are from Princeton University, Industrial Relations Section, Report on Labor Banking Movement in the United States, Princeton, 1929, p. 277, and additional new material furnished by the university to the Bureau of Labor Statistics.

² Amalgamated Bank of Philadelphia not included.

³ Dec. 31.



Cooperative Productive Enterprises in the United States

Workers' productive associations, i. e., business enterprises owned and operated by the workers themselves, have not been numerous in the United States. There were 39 such associations in 1925, 20 in 1929, 18 in 1933, and 24 in 1936. In June 1937 there were, according to information received by the Bureau of Labor Statistics, 27 associations.¹ A total membership of 3,333 was reported at the end of June 1937, 2,167 being employed in the business. There were, in addition, 282 nonmember employees. Approximately \$540,000 was paid in wages in 1936 by the associations which reported on this point.

With share capital of \$853,000 and net worth of almost \$1,100,000, these societies did a business in 1936 amounting to nearly \$3,000,000, or an average of about \$160,000 per society. There were aggregate net earnings of nearly \$70,000, or an average of \$5,200 per association.

A division of net earnings among the members was made by only a few associations in 1936, some associations having been organized only a comparatively short time, some having sustained net losses, and others having placed their net earnings in the reserve. Over \$20,000 was divided among the members of 3 associations, or an average of \$6,800 per association.

Various types of industry are carried on by workers' productive associations. The industries represented in the Bureau's study were cigar making, the manufacture of clothing (including shoes), shingles

¹ For detailed report see Monthly Labor Review, November 1938.

and lumber, canning and processing of food and fish, fisheries, printing and publishing, coal mining, sheet-metal works, sign painting, laundries, and handicraft production.

Workers have undertaken productive enterprises from various motives. Unemployment in their own industry has been a frequent reason. In a number of cases they have become unemployed because of the failure or the transfer to another locality of the plant in which they were employed, and in others because of an unsuccessful strike in which they were engaged. In some instances workers have been assisted by their trade-union in starting a cooperative productive business.

General Characteristics of Cooperative Workshops

A comparison of the structure of the societies reporting in the survey discloses that they vary in certain respects from the "ideal" workers' productive association. In the "ideal" workers' productive association the workers in the business contribute all the capital, and through their representatives manage and operate the business. These owner-workers are paid regular wages, and any profits of the business are divided among them according to one of several plans.

The membership of a workers' productive society tends to be more circumscribed than that of a consumers' cooperative society. In the latter, an increase in membership expands the business, and in general reduces the overhead, thus increasing the savings which accrue to the individual members. In the workers' productive association, on the contrary, additional worker-members increase the number to share in the profits but do not necessarily enlarge the amount of business transacted. The fact that the workers depend on the business for their livelihood tends to restriction of membership—as additional members are considered as reducing the profits of the others—and may even result in closing the membership rolls altogether. If the business is successful, additional workers may be taken on as employees rather than as members, thus restricting the number who will share in the profits.

The nature of the business or work conducted by the association may also act as a limitation on the membership, especially if the work requires particular skill or if the business is highly specialized.

Few of the associations reporting in the Bureau's survey conformed to the "ideal" association in every particular. Some had been promoted by trade-unions and had more of the characteristics of trade-union or joint-stock enterprises than of cooperative workshops, and only trade-unionists were accepted as members. One or two societies were more nearly profit-sharing organizations than cooperative societies, as the workers, although sharing in the profits, owned only part of the capital stock. One such society had used part of the profits of the business to buy the common stock of the association; at the time of the survey it held collectively 63 percent of the common stock.

In general the broad outlook and cooperative idealism which are features of the consumers' cooperative movement are not a common characteristic of workers' productive societies.

Membership and Employment

Membership in workers' productive associations is frequently limited in certain ways. The most common restriction is that only the employees or workers may be members. In three societies the members must be Indians of a certain tribe, and in one society they must be farmers. The bylaws of one society limited the membership to producing farmers, fishermen, woodsmen, and employees of the society. Seven associations reported that they had no limitations on membership, but in one of these the members were nearly all producers. One small association had closed its membership and would accept no new members.

In 13 societies all the members were employed in the business and in another all but 1 were so employed. Eleven societies employed nonmembers as well as members, and in three of these there were approximately as many nonmember as member employees. Four societies reported they had no nonmember employees, and the other 11 did not report on this point. The number of nonmember employees in the societies which reported having such employees ranged from 1 to 127 per society.

Table 1 shows the number of members in the societies in the various industries, and also the number of member and nonmember employees.

TABLE 1.—*Members (shareholders) and employees of workers' productive associations in 1936, by kind of business*

Kind of business	Number of societies	Members (shareholders)		Nonmember employees
		Number	Number employed in business	
Total.....	27	3,333	2,167	282
Cigar factories.....	1	74	10	-----
Clothing factories.....	1 3	1 405	280	61
Coal mines.....	2	210	210	2
Fish canning and processing plants.....	3	565	422	40
Fisheries.....	1	112	112	-----
Food factories.....	1	78	78	22
Handicraft production.....	3 6	764	764	10
Laundries.....	4 1	42	42	-----
Lumber mills.....	1	50	23	-----
Printing and publishing.....	3	23	21	2
Sheet-metal works.....	1	3	3	4
Shingle mills.....	1	13	12	14
Shoe factories.....	2	994	190	127
Sign painting.....	1	-----	-----	-----

¹ Including 1 association which reported 100 employee members; total number not stated.

² Employee members; total number not reported.

³ Including 2 associations which reported total of 38 employee members; total number not stated.

⁴ Also cannery.

Capitalization and Business

Share capital to the amount of \$853,000 had been paid in by the members of 14 associations by the end of 1936. The value of the individual shares ranged from \$5 to \$1,000. Three associations had originally been self-help organizations, financed initially by Federal loans or grants. Another had a membership fee of \$1. One coal-

mine association had no cash share capital; its members each acquired a share of stock by 15 days' work.

Table 2 shows the capitalization, net worth (paid-in capital, surplus, surplus reserves, and undivided earnings), and total and average business of the societies, classified according to kind of business.

TABLE 2.—Capitalization and business of workers' productive associations in 1936

Kind of business	Number of societies reporting	Paid-in share capital	Net worth	Amount of business	Average business per society
Total	22	¹ \$853, 293	² \$1, 078, 341	³ \$2, 876, 040	\$159, 780
Cigar factories	1	4, 313	(⁴)	6, 973	6, 973
Clothing factories	2	75, 769	27, 493	229, 521	114, 761
Fish canning and processing plants	3	⁵ 165, 906	359, 450	673, 320	224, 440
Fisheries	1			42, 704	42, 704
Food factories	1	402, 449	301, 165	869, 024	869, 024
Handicraft production	5	⁵ 5, 998	⁶ 7, 799	42, 767	8, 553
Laundries	1	(⁴)	2, 457	(⁴)	
Lumber mills	1	2, 060	2, 900	(⁴)	
Printing and publishing	3	4, 295	⁶ 4, 219	15, 468	5, 156
Sheet-metal works	1	3, 000	5, 539	27, 244	27, 244
Shingle mills	1	34, 258	⁷ 17, 833	(⁴)	
Shoe factories	2	155, 245	385, 152	⁸ 969, 019	969, 019

¹ 14 societies.
² 16 societies.

³ 18 societies.
⁴ Not reported.

⁵ 1 society.
⁶ 2 societies.

⁷ Deficit.

The amount of business done by the associations each year, 1934 to 1936, and the net earnings or losses each year are presented in table 3.

TABLE 3.—Trend of business and net earnings of workers' productive associations, 1934 to 1936

Kind of business	Number of societies reporting	Business done			Net earnings		
		1934	1935	1936	1934	1935	1936
Total	19 ¹	² \$2,475, 561	² \$2,606, 986	³ \$2,876, 040	⁴ \$35,254	⁵ \$68,933	⁶ \$67,796
Cigar factories	1	8, 353	7, 055	6, 973			
Clothing factories	2	⁶ 107, 945	⁶ 112, 962	229, 521	⁷ 8, 131	⁷ 2, 091	⁷ 87
Fish canning and processing plants	3	⁸ 455, 201	⁸ 669, 298	673, 320	⁸ 832	⁸ 3, 866	⁹ 11, 796
Fisheries	1	60, 687	42, 217	42, 704	4, 267	¹⁰ 199	¹⁰ 1, 092
Food factories	1	656, 601	832, 782	869, 024	8, 572	14, 022	3, 023
Handicraft production	5	⁸ 13, 500	¹¹ 26, 546	42, 767		⁶ 422	1, 693
Printing and publishing	3	⁸ 2, 742	⁸ 2, 699	15, 468	(¹²)	(¹²)	
Sheet-metal works	1	7, 934	11, 251	27, 244	2, 499	4, 661	9, 265
Shingle mills	1	(¹³)	(¹³)	(¹³)	¹⁰ 1, 839	9, 197	¹⁰ 9, 279
Shoe factories	1	1, 162, 598	902, 176	969, 019	¹⁰ 41, 454	39, 055	52, 477

¹ 12 societies.

² 13 societies.

³ 18 societies.

⁴ Net loss, 10 societies.

⁵ 12 societies.

⁶ 1 society.

⁷ Net loss, 1 society.

⁸ 2 societies.

⁹ 2 societies; 1 other society had net loss of \$18,314, but had processed fish valued at \$36,815 held for favorable market.

¹⁰ Net loss.

¹¹ 3 societies.

¹² 2 societies reported no earnings.

¹³ Not reported.

In addition to the wages earned by the member or shareholder employees in a workers' productive association, they are entitled to a share of the net earnings of the business. It was the practice in most of the reporting associations to distribute earnings on the basis of the number of shares held. In one case stock was given the worker instead of cash, and in another the earnings were used to buy the common stock of the association for the workers collectively. One association treated the net earnings as working reserve. Three of the associations in the fisheries and fish canning and processing business divided the net earnings among the fishermen according to the fish delivered by each, and one divided the net profits equally between the shareholders and the fishermen, the latter receiving their share on the basis of the fish delivered by each. A shoe-factory association divided any surplus remaining, after paying 3½ percent on preferred stock and on purchases by common-stock holders, between the workers (according to wages) and the retailers (according to sales). A handicraft association distributed the net earnings to the workers on the basis of wages.

In 1936, however, only four associations divided any profits among their members. One association paid 10 percent on shares, amounting to \$9,170; another paid \$40 in stock to the workers and 6 percent on preferred stock; and a third paid dividends of 3½ percent on preferred stock and on purchases by common-stock holders, amounting to \$148. A fish-processing association distributed \$11,078 equally between stockholders and fishermen.



Self-Help Organizations in the United States ¹

At the close of 1938 there were 140 self-help organizations in the United States, with about 5,500 members. These self-help cooperatives were in 18 States,² the District of Columbia, the Tennessee Valley, the Virgin Islands, and Puerto Rico. Almost one-half of them were in California. From the beginning of the movement, in 1931, to the end of 1938, it is estimated that over half a million families had been affiliated with 600 self-help organizations in 37 States.

In the self-help programs emphasis has been laid upon varying objectives at different times and in the different States. Thus, in California, Puerto Rico, and the Virgin Islands the relief aspect of the program has been stressed, whereas in Idaho, Missouri, Utah, and Washington the attempt has been made in recent years to place the units on a full-time, self-supporting basis. In the District of Columbia and Virginia, the self-help activities are looked to for the purpose of providing supplementary income through part-time employment and of functioning as an adjunct to private employment.

According to the ultimate objective, the degree of supervision and the limitations imposed upon the groups have varied widely. Naturally, where the self-help activities were regarded merely as one form

¹ For detailed reports on self-help associations in general and in particular States, see Monthly Labor Review, issues of August 1936 (Utah), August 1937 (California), September 1937 (Idaho), July 1938, May, September, and December 1939, and February 1940.

² Alabama, California, Colorado, Florida, Idaho, Iowa, Louisiana, Michigan, Missouri, Nebraska, New York, North Carolina, Pennsylvania, Tennessee, Utah, Virginia, Washington, and West Virginia.

of relief, the restrictions imposed as to the use of capital and the disposal of goods were greatest.

Originating during the early part of the depression when unemployment was abnormally large, the self-help organizations were at first simply barter and exchange societies, formed by the more enterprising and independent unemployed in an effort to supply their needs by exchanging their labor for surplus commodities. The peak of this phase of the self-help movement was in the spring of 1933, when the number of self-help groups reached over 400 and the active membership was approximately 75,000. During the following year, as adequate relief became obtainable, there was a sharp decline in the number of groups of this character.

When Federal grants became available for productive cooperatives, in 1934, those receiving grants were encouraged to undertake productive enterprises and a great many of the early barter groups did so. A large number of new self-help groups were also formed, especially in Idaho, Utah, Washington, and Missouri.

Approximately \$4,730,000 in public funds was expended on the productive enterprises of self-help cooperatives during the period from 1933 to 1938. About \$3,190,000 of this was in grants from the Federal Government, principally during 1934 and 1935. The State relief administration generally had supervision of the productive cooperatives, but State officials and local groups were given almost complete control of the determination of the program to be followed.

Only 8 States³ and the District of Columbia furnished financial support. These States contributed about \$1,540,000 to the program. In consequence, when Federal grants ceased in 1935 the self-help cooperative production program also stopped in many States. In 1938 Congress again authorized Federal grants to self-help groups of the unemployed, but no grants were made, though regulations covering the eligibility requirements for such grants were published.

Present Forms of Self-Help Cooperatives

Most of the self-help cooperatives in existence at the end of 1938 were productive cooperatives. Only 31 of the 140 organizations were barter groups and all but 2 of them were in California. Of these two, one was in Nebraska and the other in West Virginia.

The majority of the self-help productive cooperatives have been of the relief type, and, as such, were usually under the supervision of the State relief administrations. Generally their products could not be sold in the open market, though a small portion was sold to relief agencies in order to reimburse the cash costs of operation. The largest part of the products, however, has been exchanged among the groups and distributed to the members.

In Idaho, Missouri, Utah, and Washington, the self-help cooperatives have been allowed to sell their products on the open markets. Their typical products are lumber and canned goods. Their original capital and operating expenses were secured from Federal and State funds. A number of these groups have paid their members a higher cash wage during operations than they would have received on WPA work. In off seasons, however, the members have had to depend on WPA employment.

³ California, Idaho, Iowa, Minnesota, Missouri, Nebraska, Utah, and Washington.

In Michigan, North Carolina, and Tennessee, processing and marketing cooperatives have been organized in areas where farmers and fishermen were particularly destitute. Grants from Federal self-help funds were obtained. The Farm Security Program has provided aid for somewhat similar groups in other parts of the country.

Idaho and Pennsylvania have each had a successful experiment in the cooperative provision of housing on the self-help plan.

The community self-help exchanges in Washington, D. C., Richmond, Va., and Wheeling, W. Va., were formed by committees of local citizens, which supervise their activities, though there is an advisory council of self-help workers. The members are composed mainly of those who are in need of a small supplementary income, those who are unemployable in private industry, and young persons who desire vocational training. A great many kinds of projects are carried on by a single organization. The members obtain products and services on the basis of hours worked. The exchanges provide recreational and social activities for their members, and the stress is on individual rehabilitation rather than on efficiency in production. As all the products are distributed to the members, outside aid is necessary for cash expenses and raw materials.

The number of self-help organizations in the United States and their membership as of June 1938, with a percentage distribution, are shown in the accompanying table.

Self-help organizations and their membership in the United States as of June 1938, by States

[Data are from California 1939 Legislative Problems Report No. 9]

State	Units		Members	
	Number	Percent of total	Number	Percent of total
California ¹	71	46.1	2,173	38.1
Washington.....	20	13.0	350	6.7
Utah.....	19	12.3	263	4.6
Idaho.....	9	4.8	100	1.8
Missouri.....	6	3.9	200	3.5
Nebraska ²	3	1.9	55	1.0
Michigan.....	2	1.3	220	3.9
Tennessee.....	2	1.3	90	1.6
West Virginia ³	2	1.3	130	2.3
Alabama.....	1	.7	40	.7
Colorado.....	1	.7	15	.3
Florida.....	1	.7	20	.3
Iowa.....	1	.7	27	.5
Louisiana.....	1	.7	50	.9
New York.....	1	.7	10	.2
North Carolina.....	1	.7	477	8.4
Pennsylvania.....	1	.7	17	.3
Virginia.....	1	.7	700	12.3
Tennessee Valley Authority.....	8	5.2	400	7.0
Virgin Islands and Puerto Rico.....	2	1.3	127	2.2
Washington, D. C.....	1	.6	207	3.6
Total.....	154	100.0	5,701	100.0

¹ Includes 30 nongrant units with 1,570 members.

² Includes 1 nongrant unit with 35 members.

³ Includes 1 nongrant unit with 100 members.

Cost and Standards of Living

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COST-OF-LIVING INDEXES

Time Changes in Cost of Living

Significance of Cost-of-Living Indexes¹

The Bureau of Labor Statistics cost-of-living indexes for the United States are designed to measure changes from time to time in prices to the ultimate consumer of goods purchased by a representative group of wage earners and lower-salaried workers in the larger cities of the country, whose family incomes as of 1934-36 ranged upward from \$500. The income of the group covered averaged \$1,524 at that time.

These indexes represent price changes not only of food, clothing, and other items bought in retail stores, but also of rent and a variety of commonly used services for which prices ordinarily do not change often. The indexes therefore show less change than do prices of food and some articles of clothing and they are often subject to the unwarranted criticism that they do not reflect "what is happening" by people who forget that the electric-light bill or the hairdresser's charge is part of the cost of living.

In combining price changes to get an average change, the relative importance given to the various classes of goods and services is determined by the purchases of families of wage earners and clerical workers, as shown by a study of the consumer expenditures of these groups in the years 1934-36. Since the list of articles priced must be limited, weights representing purchases of a group of commodities are applied to a small group of selected items for which prices are actually obtained each quarter or each month (e. g., purchases of all meats are represented by selected cuts of 11 kinds of meat). In this procedure it is assumed that price movements of the missing articles in the group are accurately represented by the selected articles, as for instance, all beef by top round, rib roast, and chuck roast.

In the matter of price collection, the Bureau of Labor Statistics has greatly improved its methods in recent years. The field agents who now obtain prices from retail store buyers go equipped with a set of price specifications which are of considerable assistance in getting prices of the same quality of goods from time to time. This change has been possible partly because the Bureau has allotted a larger and more highly trained staff to its price work than was the case formerly.

In recent years there have been certain changes in retailing which have made possible more adequate methods of price collection. The retail buyers who furnish the Bureau with price quotations are now

¹ For data on the actual income and expenditures of the families of American workers, see section on Standards and Planes of Living (p. 102).

For details regarding the collection and compilation of retail prices by the Bureau of Labor Statistics, see section on Retail Prices (p. 687).

much more likely to have exact information on the quality of the goods they are selling than they were in the decade of the twenties when synthetic fabrics and the plastics were just coming onto the market.

There are, however, continuous changes in the nature and the quality of goods available in the market, and these changes frequently necessitate the substitution of one article for another in the list of goods priced for the cost-of-living index. This is particularly important in the case of clothing. The Bureau of Labor Statistics follows the practice of carrying a particular article on its list as long as it is commonly sold, and then substituting another article of approximately the same grade which serves the same purpose. However, if there is a price differential between the two articles (i. e., if a sweater formerly selling at \$1.75 is no longer obtainable and is replaced by another type selling at \$1.65 or \$1.95), this differential is not reflected in the index. The new article is introduced by a linking method. The Bureau's field agents are instructed, however, to treat certain cases of substitution as price changes. When the stock of an article regularly priced for the index is exhausted in one of the reporting stores, and the only substitute available is at a higher price, the substitution is treated as a price change.

When new models of automobiles, radios, refrigerators, vacuum cleaners, and washing machines are introduced, the practice is to use the price of the largest-selling lines of the current model (e. g., 6½-cubic-foot refrigerators; 2-door sedans, etc.) and to allow the full effect of price changes of the most popular models to enter into the index. Thus when refrigerator prices went down more than 10 percent in the spring of 1940 this was reflected in the Bureau's index, even though quality had improved so that price, with regard to quality, might have shown a greater decline. The technical difficulties in the way of measuring the percent of change in the quality of goods of this sort are so great that no other procedure seems possible.

In pricing for the Bureau's cost-of-living index, State and city sales taxes are added to the cost of the commodities on which those taxes are imposed. Similarly, automobile taxes and other consumption taxes are specifically included. Property taxes are included in rental costs. Social-security taxes have been treated as savings, and thus omitted from the index. Income taxes paid have also been omitted, as they have heretofore applied to a very small proportion of the groups whose living costs the indexes attempt to measure.

Thus, the Bureau's cost-of-living indexes do not represent changes in the living costs of all urban families. Nor do they represent the cost of the way average wage earners' and clerical workers' families actually live today, as this group, like any other, adjusts its purchases to changes in prices, and buys, for example, more pork and less beef when pork is relatively cheap and beef is relatively dear, and more rayon and less wool when rayon prices remain stable and those of wool rise.

One reason why no attempt has been made to represent the cost of the way average wage earners' and clerical workers' families actually live today is that no current month-by-month allowance is

made (nor does information exist on which to make it) for substitutions in buying because of price changes. The makers of index numbers must assume that beef is used in approximately the same quantity month after month. This obviously makes short-time changes in certain parts of the family budget somewhat unrealistic. Since the object, however, is to indicate price changes as such, it is almost imperative to make only infrequent changes in weights in order to measure broad swings in prices. Moreover, it is obviously impossible to make frequently those studies of the way in which people spend their money which are the basis for the selection of the articles priced and of the importance assigned to them.

There comes a time, of course, when consumption habits have changed so materially that it becomes necessary to use a new set of weights. The Bureau of Labor Statistics recently revised its cost-of-living index, using new consumption weights applying to 1934-36. The group indexes were completely recalculated with the new weights back through 1935, and chained to the group indexes previously published for each city covered. Relatively little difference appeared in the movement of the old and the new series between 1935 and 1939.

Cost-of-Living Indexes, by Groups of Items, 1913 to 1941

Table 1 presents indexes of the cost of goods purchased for all large cities combined, by groups of items, from 1913 to 1941. Beginning with October 1940, monthly indexes have been computed at the request of the Defense Advisory Commission. The indexes for the months intervening between the regular quarterly surveys are based on a limited number of items for 20 cities only.

TABLE 1.—*Indexes of cost of goods purchased by wage earners and lower-salaried workers in large cities combined, 1913 through Dec. 15, 1941*

[A average 1935-39=100]

Date	All items	Food ¹	Clothing	Rent	Fuel, electric-ity, and ice	House-furnish-ings	Miscel-laneous
1913—Average.....	70.7	79.9	69.3	92.2	61.9	59.1	50.9
1914—December.....	72.6	83.9	70.0	92.2	62.5	61.5	52.4
1915—December.....	74.0	83.9	72.5	93.6	62.5	65.4	54.6
1916—December.....	82.4	100.6	83.2	94.3	67.1	75.5	57.6
1917—December.....	97.8	125.4	103.3	92.3	76.8	89.0	71.5
1918—December.....	118.0	149.6	147.9	97.1	90.4	121.2	83.1
1919—June.....	121.0	148.5	160.1	101.0	89.3	128.8	85.5
December.....	135.3	160.0	198.4	109.6	94.8	152.3	94.3
1920—June.....	149.4	185.0	209.7	119.1	104.8	169.7	100.7
December.....	138.3	146.4	187.8	131.4	119.0	164.4	104.7
1921—May.....	126.6	121.2	161.5	139.2	112.9	141.6	104.7
September.....	125.3	129.2	139.5	140.0	112.7	127.8	104.0
December.....	123.6	126.1	133.4	142.3	113.8	124.4	103.5
1922—March.....	119.3	118.3	127.3	142.0	110.5	117.7	101.8
June.....	119.5	121.0	124.9	142.5	110.0	115.5	100.9
September.....	118.7	118.1	123.5	142.8	115.8	115.7	100.7
December.....	120.4	122.4	123.6	143.8	117.3	119.3	100.4
1923—March.....	120.2	119.7	125.4	144.5	116.5	124.7	100.5
June.....	121.6	123.7	125.7	146.0	113.2	127.4	100.5
September.....	123.1	126.6	126.7	147.4	114.5	127.5	101.1
December.....	123.5	126.0	126.7	149.6	116.0	127.4	101.5
1924—March.....	122.0	121.3	126.3	150.4	114.7	126.5	101.2
June.....	121.8	121.5	125.1	152.0	112.0	123.1	101.3
September.....	122.2	123.1	123.8	152.2	113.5	122.1	101.3
December.....	123.2	125.9	123.0	152.6	114.2	122.7	101.7

¹ Covers 51 cities since 1920.

TABLE 1.—Indexes of cost of goods purchased by wage earners and lower-salaried workers in large cities combined, 1913 through Dec. 15, 1941—Continued

Date	All items	Food ¹	Clothing	Rent	Fuel, electric-ity, and ice	House-furnish-ings	Miscel-laneous
1925—June	124.9	131.9	122.6	152.2	112.4	121.3	102.3
December	128.2	140.6	121.8	152.0	121.3	121.1	102.6
1926—June	126.4	137.8	120.7	150.6	114.7	118.6	102.5
December	126.1	136.8	119.6	150.0	118.6	117.3	102.8
1927—June	125.7	137.5	118.5	148.4	114.1	115.7	103.1
December	123.8	132.5	116.9	146.9	115.4	115.2	103.6
1928—June	122.1	129.7	116.7	144.8	112.0	112.8	103.6
December	122.4	130.6	116.0	143.3	114.3	112.1	104.3
1929—June	122.1	131.3	115.4	141.4	111.1	111.7	104.5
December	122.8	133.8	114.7	139.9	113.6	111.3	104.9
1930—June	120.3	128.1	113.8	138.0	109.9	109.9	105.2
December	115.3	116.5	109.4	135.1	112.4	105.4	104.9
1931—June	108.2	102.1	103.5	130.9	107.3	98.1	104.3
December	104.2	96.5	96.3	125.8	109.1	92.6	103.3
1932—June	97.4	85.7	91.1	117.8	101.6	84.8	101.8
December	93.5	82.0	86.2	109.0	102.5	81.3	100.2
1933—June	90.8	82.2	84.8	100.1	97.2	81.5	97.8
December	93.9	88.1	94.4	95.8	102.9	91.1	98.1
1934—June	95.3	93.0	96.6	94.0	100.3	92.9	97.9
Nov. 15	96.2	95.4	96.5	93.9	101.8	93.6	97.8
1935—Mar. 15	97.8	99.7	96.8	93.8	102.1	94.2	98.1
July 15	97.6	99.4	96.7	94.1	99.0	94.5	98.2
Oct. 15	98.0	100.0	96.9	94.6	100.5	95.7	97.9
1936—Jan. 15	98.8	101.5	97.3	95.1	100.8	95.8	98.2
Apr. 15	97.8	98.4	97.4	95.5	100.8	95.7	98.4
July 15	99.4	102.6	97.2	96.5	99.1	95.9	98.7
Sept. 15	100.4	104.8	97.5	97.1	99.9	96.6	99.0
Dec. 15	99.8	101.6	99.0	98.1	100.5	97.9	99.1
1937—Mar. 15	101.8	105.0	100.9	98.9	100.8	102.6	100.2
June 15	102.8	106.0	102.5	101.0	99.2	104.3	100.9
Sept. 15	104.3	107.9	105.1	102.1	100.0	106.7	101.7
Dec. 15	103.0	102.7	104.8	103.7	100.7	107.0	102.0
1938—Mar. 15	100.9	97.5	102.9	103.9	101.2	104.7	101.6
June 15	100.9	98.2	102.2	104.2	98.6	103.1	101.8
Sept. 15	100.7	98.1	101.4	104.2	99.3	101.9	101.6
Dec. 15	100.2	97.2	100.9	104.3	100.0	101.7	101.0
1939—Mar. 15	99.1	94.6	100.4	104.3	100.1	100.9	100.5
June 15	98.6	93.6	100.3	104.3	97.5	100.6	100.4
Sept. 15	100.6	98.4	100.3	104.4	98.6	101.1	101.1
Dec. 15	99.6	94.9	101.3	104.4	99.9	102.7	100.9
1940—Mar. 15	99.8	95.6	102.0	104.5	100.6	100.5	100.8
June 15	100.5	98.3	101.7	104.6	98.6	100.1	100.6
Sept. 15	100.4	97.2	101.6	104.7	99.3	100.3	101.4
Oct. 15	100.2	96.2	101.6	104.7	99.9	100.4	101.6
Nov. 15	100.1	95.9	101.6	104.7	100.3	100.6	101.7
Dec. 15	100.7	97.3	101.6	104.9	100.7	100.4	101.8
1941—Jan. 15	100.8	97.8	100.7	105.0	100.8	100.1	101.9
Feb. 15	100.8	97.9	100.4	105.1	100.6	100.4	101.9
Mar. 15	101.2	98.4	102.1	105.1	100.7	101.6	101.9
Apr. 15	102.2	100.6	102.4	105.4	101.0	102.4	102.2
May 15	102.9	102.1	102.8	105.7	101.1	103.2	102.5
June 15	104.6	105.9	103.3	105.8	101.4	105.3	103.3
July 15	105.3	106.7	104.8	106.1	102.3	107.4	103.7
Aug. 15	106.2	108.0	106.9	106.3	103.2	108.9	104.0
Sept. 15	108.1	110.8	110.7	106.8	103.7	112.0	105.0
Oct. 15	109.3	111.6	112.6	107.5	104.0	114.4	106.9
Nov. 15	110.2	113.1	113.8	107.8	104.0	115.6	107.4
Dec. 15	110.5	113.1	114.8	108.2	104.1	116.8	107.7

¹ Covers 51 cities since June 1920.

Cost-of-Living Indexes, by Cities, 1913 to 1940

Table 2 presents the new indexes of the cost of all goods purchased by wage earners and lower-salaried workers, for each of the large cities covered and for the large cities combined, for all pricing dates. Manchester has been added to the list of cities covered since March 1935, and Milwaukee since March 1939.

TABLE 2.—Indexes of cost of all goods purchased by wage earners and lower-salaried workers in large cities—Continued

Date	Portland, Oreg.	Rich- mond	St. Louis	San Franc- isco	Savan- nah	Scran- ton	Seattle	Wash- ington, D. C.
1913—Average	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1914—December	77.7	(1)	(1)	73.4	80.6	(1)	70.5	72.6
1915—December	74.8	(1)	(1)	72.7	80.4	(1)	69.8	73.2
1916—December	80.7	(1)	(1)	78.9	90.3	(1)	75.0	81.5
1917—December	97.8	101.9	98.7	92.2	109.7	97.1	90.5	102.9
1918—December	123.7	119.7	115.1	112.2	135.9	119.2	118.1	119.5
1919—June	128.3	123.0	116.7	116.5	138.4	123.3	123.6	117.8
December	141.0	134.8	132.3	129.1	152.2	134.3	139.8	127.5
1920—June	156.8	151.3	151.6	139.0	162.8	151.7	151.1	141.9
December	139.6	135.5	134.9	131.1	153.7	136.5	137.6	130.0
1921—May	127.2	123.0	123.9	120.4	139.5	126.9	128.6	118.2
September	126.5	124.3	123.9	119.3	136.1	125.8	125.3	119.0
December	124.7	121.9	120.1	119.2	132.0	125.0	122.8	116.2
1922—March	120.9	118.1	117.0	116.3	126.1	120.2	120.6	112.8
June	120.6	118.7	118.1	115.8	126.0	121.1	120.1	113.7
September	122.1	116.6	116.5	115.0	125.4	118.7	119.3	112.3
December	122.8	117.4	117.6	116.0	126.2	121.0	119.1	113.5
1923—March	122.1	117.6	118.1	114.5	126.0	121.3	115.8	112.9
June	122.3	119.7	119.2	115.7	126.1	122.7	119.3	116.0
September	123.4	121.6	121.3	117.5	126.3	124.3	120.4	116.8
December	124.4	120.6	121.0	118.7	125.6	124.5	120.1	115.8
1924—March	123.0	119.1	120.4	115.9	124.6	122.8	119.0	114.4
June	121.4	117.8	120.0	115.8	123.4	122.5	119.9	114.3
September	122.2	119.1	120.2	116.4	123.9	123.6	119.3	114.4
December	122.5	119.7	121.3	117.3	123.9	124.8	119.8	115.9
1925—June	123.5	121.8	124.6	119.9	125.7	127.5	122.8	117.4
December	123.8	126.6	127.4	121.4	131.0	132.6	123.2	120.0
1926—June	122.2	125.8	126.8	118.8	129.2	130.1	121.5	119.3
December	121.8	123.5	126.3	119.0	128.2	129.7	120.6	118.6
1927—June	121.7	123.7	126.9	119.3	127.5	129.3	122.1	116.3
December	119.6	119.7	122.7	118.3	125.9	127.9	118.5	115.2
1928—June	117.6	120.0	121.9	117.1	124.8	127.0	117.9	114.8
December	118.3	118.2	121.4	118.7	125.5	127.2	118.2	114.1
1929—June	116.8	117.2	122.6	117.7	124.6	126.6	119.1	114.6
December	117.8	118.3	123.6	118.1	124.4	126.9	119.7	114.5
1930—June	116.7	117.7	121.0	115.7	121.7	123.3	118.7	112.9
December	109.7	112.2	114.9	116.3	118.2	118.2	111.0	110.2
1931—June	104.4	105.9	107.2	105.4	110.4	109.6	107.0	105.0
December	101.4	103.1	101.9	102.2	103.9	106.0	103.4	102.4
1932—June	94.4	96.9	96.3	97.0	97.0	98.5	97.0	97.3
December	91.8	92.9	92.3	95.2	94.1	96.1	92.8	94.1
1933—June	88.6	91.1	90.7	92.7	91.5	93.0	92.5	92.7
December	90.5	95.2	92.8	95.9	95.8	97.8	93.1	96.4
1934—June	91.9	96.4	94.9	96.6	96.5	98.6	93.6	97.6
November 15	94.1	97.2	95.6	90.0	97.6	98.4	95.5	98.3
1935—March 15	96.4	98.2	98.0	99.4	98.6	99.8	97.4	98.6
July 15	95.5	98.3	98.3	97.5	98.5	99.9	95.7	98.7
October 15	95.7	99.7	98.2	97.8	100.0	100.3	95.9	99.4
1936—January 15	96.8	99.9	99.4	98.4	100.2	101.4	97.8	99.9
April 15	96.2	98.3	98.3	97.0	98.5	99.4	96.5	98.6
July 15	98.2	99.8	99.8	97.9	100.1	101.4	97.7	99.8
September 15	99.3	101.5	101.3	98.7	100.3	102.5	99.0	100.5
December 15	99.4	102.0	99.7	98.8	100.2	101.8	99.5	100.4
1937—March 15	102.0	102.0	101.8	101.1	101.7	102.1	102.0	101.9
June 15	103.0	101.6	103.0	101.5	102.1	102.9	102.2	102.4
September 15	104.7	103.6	104.1	102.9	103.0	103.8	103.7	103.3
December 15	103.2	102.0	102.7	103.3	101.9	101.2	103.2	102.2
1938—March 15	102.7	100.6	100.7	101.2	100.3	99.7	102.2	100.1
June 15	101.7	99.2	100.4	101.4	99.8	99.6	101.2	100.1
September 15	101.6	100.0	100.7	101.7	99.4	97.7	101.1	100.1
December 15	101.7	99.8	99.5	101.4	99.5	97.9	101.2	99.7
1939—March 15	100.7	98.6	99.0	100.3	98.7	96.9	100.9	98.9
June 15	100.5	97.4	97.8	99.2	98.7	96.4	100.8	98.5
September 15	102.1	99.9	100.4	101.0	100.6	98.7	102.6	100.3
December 15	100.9	98.8	99.1	100.2	99.7	97.4	100.9	98.9
1940—March 15	99.7	98.4	99.0	99.8	100.0	98.4	101.6	99.6
June 15	100.7	98.5	99.5	100.1	100.8	98.7	101.7	100.1
September 15	101.5	99.3	99.8	100.8	101.0	98.6	101.7	100.0
October 15	(1)	(1)	100.0	101.4	101.1	(1)	101.5	(1)
November 15	(1)	(1)	99.7	101.6	100.8	(1)	101.6	(1)
December 15	101.8	99.7	101.0	101.6	101.5	99.4	102.0	99.7

¹ Indexes not computed.

Comparison of New and Old Indexes

As already noted, the current cost-of-living indexes of the Bureau of Labor Statistics are based upon the consumption habits of wage earners and clerical workers as ascertained in the Bureau's survey made in 1934-36. This adjustment was made in 1940 and at the same time the base period was changed from 1913 to 1935-39. Previously, consuming habits as they existed in 1917-18, and as shown in the Bureau's budget survey of that year, had been used as the basis for the weights used in computing its cost-of-living indexes.

Despite the large changes in the internal composition of the index resulting from the new study of consumption habits in 1934-36, the differences between the movement of the new and original indexes over the period for which both indexes were computed, March 1935 to December 1939, are not large. The general pattern of change in the cost of all items was the same for both indexes—little change during 1935, a sharp increase from the spring of 1936 to the fall of 1937, with a subsequent decline to levels in 1939 still somewhat above those prevailing in 1935. The maximum discrepancy between the two indexes at any period is slightly more than 1 index point. In general the new index seems to be somewhat more sensitive to price change than was the original.

The general closeness of the agreement between the two sets of indexes over the period 1935-39 is a strong indication of the usefulness of the original group indexes for periods prior to 1935.

The earlier group indexes for each city have been linked to the new group indexes in order to provide a complete series back to 1913. From 1930 to 1940, the group indexes have been combined with the weights derived from the study of family expenditures in 1934-36 to secure indexes representing the cost of all items. From 1913 to 1925, the group indexes are combined with weights derived from the study of family expenditures in 1917-19. For the intervening years, 1925 through December 1929, the group indexes have been combined with weights which represent an estimate of the distribution of family expenditures in this period.¹ The 19 city indexes available from 1913 through 1917 were originally combined without population weights and this method has been retained for this period. From 1918 through 1924 the city indexes have been combined with weights representing average population in 1920-30. From 1930 to 1935, they have been combined with weights representing 1930 population.

Relative Importance of the Groups of Items

Table 3 presents for each of the 33 cities the relative importance of each of the six groups of items in the index on the basis of average costs in 1935-39. Because of differences from one city to another in climate, in the economic level of the wage-earner and clerical group, in prices and consumer preferences, the manner in which families apportion their expenditures among different groups of items differs from one city to another. While the same general pattern is preserved from one city to another, certain important differences exist.

¹ This was done by averaging the new and original group weights for the period 1925-29.

The differences in the percentage assigned to food can be largely explained on the basis of differences in income. New Orleans families, for example, with a low average income, allocate almost 40 percent of their total expenditure to food, whereas Washington families, with a comparatively high level of income, spend less than 30 percent. In New York, however, where the average money income is relatively high, food prices are high enough to bring the proportion of the total going to food to a percentage distinctly above the average.

For clothing, intercity differences are less than for any other group, the percentages all falling between 9 and 12.

In those cities in which rental costs are high relative to the cost of other items, and where a large proportion of the rents include heat as well as shelter, rent tends to claim a higher than average portion of total expenditure. Thus in New York, rent is 21.1 percent of total expenditure; in Chicago, 19.3; in Washington, 21.8; and in Boston, 19.8. For each of these cities rental costs are not only above the national average but are high relative to the cost of other items.² On the other hand, in cities like Manchester, Portland (Oreg.), Indianapolis, and Mobile, where relative rental costs are low, the percentage of total expenditure allotted to rent is less—12.6, 13.2, 14.2, and 12.8, respectively.

Another group of items for which large differences between cities may be expected is that which includes fuel, electricity, and ice. In warm climates the reduction in fuel requirements more than balances the increased need for refrigeration and tends to reduce the percentage of total expenditures allocated to the group. In addition, cities in which apartments are important, and where, therefore, fuel is included in rent, also tend to show low percentages for this group. Thus, Manchester and Portland, Maine, both cities characterized by long cold winters and few apartments, show high percentages of total expenditure for fuel, electricity, and ice—9.4 and 9.3, respectively. New York City, in a somewhat warmer zone and characterized by the very large number of apartment-house dwellers, shows an extremely low percentage—4.8. On the other hand, Los Angeles, situated in a spot in which the climate eliminates any necessity for central heating, and in which apartment houses are not frequent, shows an even lower percentage—4.1.

TABLE 3.—*Relative importance of groups of items in computing changes in costs of all items purchased by wage earners and lower-salaried workers*

[Average 1935-39=100]

City	All items	Food	Clothing	Rent	Fuel, electricity, and ice	House-furnishings	Miscellaneous
Average: Large cities.....	100.0	33.9	10.5	18.1	6.4	4.2	26.9
New England:							
Boston.....	100.0	36.7	9.8	19.8	8.8	2.9	22.0
Manchester.....	100.0	36.8	12.0	12.6	9.4	5.2	24.0
Portland, Maine.....	100.0	32.2	10.5	17.2	9.3	4.6	26.2
Middle Atlantic:							
Buffalo.....	100.0	32.5	10.4	17.8	7.7	4.8	26.8
New York.....	100.0	36.2	11.2	21.1	4.8	2.9	23.8
Philadelphia.....	100.0	36.4	10.6	15.8	7.4	4.2	25.6
Pittsburgh.....	100.0	34.1	10.1	19.3	6.2	4.6	25.7
Scranton.....	100.0	37.1	11.3	17.9	7.5	4.7	21.5

² See Works Progress Administration, *Intercity Differences in Cost of Living*, March 1935, table 3, p. 162.

TABLE 3.—*Relative importance of groups of items in computing changes in costs of all items purchased by wage earners and lower-salaried workers—Continued*

City	All items	Food	Clothing	Rent	Fuel, electricity, and ice	House-furnishings	Miscellaneous
East North Central:							
Chicago.....	100.0	35.8	9.1	19.3	6.4	3.2	26.2
Cincinnati.....	100.0	34.5	10.9	16.2	6.1	5.8	26.5
Cleveland.....	100.0	31.6	11.0	16.7	6.7	5.4	28.6
Detroit.....	100.0	31.9	11.0	19.1	6.5	4.4	27.1
Indianapolis.....	100.0	30.2	11.1	14.2	8.1	6.5	29.9
West North Central:							
Kansas City.....	100.0	30.1	10.4	15.2	7.3	5.2	31.8
Minneapolis.....	100.0	30.7	9.9	16.7	8.5	5.1	29.1
St. Louis.....	100.0	33.4	9.7	15.5	6.9	5.0	29.5
South Atlantic:							
Atlanta.....	100.0	31.1	10.8	15.0	6.7	4.9	31.5
Baltimore.....	100.0	35.0	10.4	17.9	7.4	4.8	24.5
Jacksonville.....	100.0	32.1	10.7	14.3	6.1	4.8	32.0
Norfolk.....	100.0	33.2	9.8	14.9	8.2	6.5	27.4
Richmond.....	100.0	30.7	11.2	15.3	7.8	4.6	30.4
Savannah.....	100.0	34.1	10.9	15.0	7.3	5.0	27.7
Washington, D. C.....	100.0	27.8	11.2	21.8	4.8	4.3	30.1
East South Central:							
Birmingham.....	100.0	31.6	11.5	14.8	6.2	5.1	30.8
Memphis.....	100.0	30.8	10.6	15.4	7.8	6.2	29.2
Mobile.....	100.0	33.1	11.4	12.8	6.8	5.4	30.5
West South Central:							
Houston.....	100.0	29.0	10.6	15.4	5.2	6.7	33.1
New Orleans.....	100.0	38.9	10.1	15.6	6.1	3.8	25.5
Mountain:							
Denver.....	100.0	32.9	10.3	16.3	6.2	3.9	30.4
Pacific:							
Los Angeles.....	100.0	31.7	10.8	16.2	4.1	4.8	32.4
Portland, Oreg.....	100.0	31.8	10.6	13.2	6.2	5.0	33.2
San Francisco.....	100.0	33.5	11.2	16.6	3.8	3.7	31.2
Seattle.....	100.0	33.1	10.0	14.7	6.6	4.0	31.6

Still another group of items for which intercity differences are affected by the frequency of apartment houses is housefurnishings. The apartment, with its restricted living space, offers little opportunity for the acquisition of items like washing machines, and frequently eliminates the necessity of purchasing such items as refrigerators and stoves. The low percentages in Boston and New York—2.9—are in contrast to the proportions in cities like Houston, Indianapolis, Memphis, and Norfolk, where the percentage of apartment-house dwellers is small, and where over 6 percent is spent on this group.

Expenditure for miscellaneous items, a large portion of which is allocated to automobile purchases and operation, are influenced by the general community situation as regards automobile ownership. In Southern and Pacific cities, where automobile ownership is common, the percentage of total expenditure for miscellaneous items is high. In large Eastern cities, where automobile ownership is more expensive and more easily dispensed with, the percentage is low.

Changes in Cost of Living of Federal Employees, 1933 to 1940

Indexes of living costs of Washington Federal employees are computed annually by pricing in representative Washington stores a list of the most important goods bought by these employees and their families. The list of items priced and their relative importance in the budgets of Federal workers was determined by a study³ of the expenditures of 336 families of Federal employees and 123 single individuals in the Federal service made in the fall of 1933.

³ See Monthly Labor Review, March (p. 511) and July (p. 213) 1934.

TABLE 4.—Indexes of cost of goods purchased by Federal employees in Washington D. C., March 1933 through Dec. 15, 1940—Continued

EMPLOYEES LIVING IN FAMILY GROUPS—Continued

Group	Other employees with basic salaries of \$2,500 and over													
	March 1933	December 1933	June 1934	Nov. 15, 1934	Mar. 1935	July 15, 1935	Oct. 15, 1935	Jan. 15, 1936	Apr. 15, 1936	Dec. 15, 1936	Dec. 15, 1937	Dec. 15, 1938	Dec. 15, 1939	Dec. 15, 1940
All items.....	82.0	84.8	86.1	87.4	88.1	87.5	88.2	88.7	87.8	89.2	91.3	89.7	89.0	89.8
Food.....	67.9	70.6	72.7	77.4	80.7	79.5	80.8	81.5	78.4	80.5	82.4	77.4	75.6	78.3
Clothing.....	67.3	83.9	85.1	85.2	83.8	83.5	83.6	84.1	84.0	87.9	82.7	89.4	90.2	90.9
Housing.....	91.5	88.0	88.9	89.7	89.7	90.0	90.2	90.7	91.0	92.5	94.0	93.4	92.8	92.6
Household operation.....	85.8	86.5	85.1	86.9	85.6	83.2	85.9	85.7	84.7	84.8	85.2	85.2	84.0	84.2
Furnishings and equipment.....	71.3	87.2	91.3	91.2	91.1	91.2	92.4	93.6	93.8	97.8	103.6	100.0	102.9	104.0
Transportation.....	84.4	86.4	90.7	88.1	88.7	88.6	88.1	89.6	90.1	87.5	93.0	93.1	91.1	87.8
Personal care.....	90.6	89.7	86.5	83.9	83.7	83.5	83.1	82.3	82.3	91.0	88.6	88.0	88.0	87.8
Medical care.....	95.7	95.3	95.5	96.3	96.6	96.4	96.3	95.9	95.9	96.1	96.1	96.1	96.7	96.8
Recreation.....	89.7	90.6	93.6	91.5	91.1	90.6	90.6	90.7	90.7	91.4	93.7	98.9	99.7	103.4
Formal education.....	107.1	107.1	107.1	107.2	107.2	107.2	107.3	107.3	107.3	109.2	109.2	109.2	109.2	109.2
Life insurance.....	105.3	105.5	106.1	106.1	106.7	107.4	107.4	108.3	107.9	108.5	107.2	109.1	109.3	111.1
Retirement fund.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

EMPLOYEES LIVING AS SINGLE INDIVIDUALS

All items.....	88.3	88.1	88.6	88.8	88.9	88.9	88.9	89.0	89.0	89.5	91.2	90.6	90.3	91.6
Food.....	86.5	82.4	83.1	83.9	85.0	85.2	85.3	85.4	85.3	85.9	87.4	85.7	84.6	87.6
Clothing.....	67.9	82.6	82.4	82.4	80.9	80.6	80.7	81.5	81.5	85.5	90.1	87.0	87.8	88.0
Housing.....	90.7	85.8	85.9	86.9	86.8	86.9	86.8	86.1	86.4	87.0	88.2	87.9	87.9	89.2
Household operation.....	94.7	95.2	94.9	94.9	93.1	93.0	93.3	93.3	92.4	92.5	90.6	90.3	89.8	89.7
Furnishings and equipment.....	70.2	87.9	92.7	93.2	93.4	93.6	95.3	96.6	97.4	101.6	108.1	104.3	109.5	112.5
Transportation.....	98.4	94.6	96.3	95.7	96.0	95.8	95.6	96.1	96.5	88.0	92.0	94.9	91.3	88.0
Personal care.....	89.2	86.9	85.3	83.8	83.6	83.4	83.1	82.5	82.5	88.3	86.7	85.7	85.7	84.8
Medical care.....	96.2	96.5	96.6	97.7	98.0	97.8	97.7	97.4	97.4	97.8	97.8	97.9	98.1	98.2
Recreation.....	93.0	93.9	95.9	92.9	92.6	92.2	92.3	92.3	92.3	92.9	94.9	98.0	99.6	103.6
Formal education.....	108.1	108.1	108.7	108.8	108.8	109.1	109.3	109.3	109.3	111.2	111.2	111.2	111.2	111.2
Life insurance.....	105.3	105.5	106.1	106.1	106.7	107.4	107.4	108.3	107.9	108.5	107.2	109.1	109.3	111.1
Retirement fund.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Cost of Living in Five Defense Cities

For the purpose of extending the cost-of-living surveys of the Bureau of Labor Statistics to specific cities affected by defense activity, the National Defense Advisory Commission in 1940 allocated funds to the Bureau. The specific cities were chosen according to a plan specified by the Commission. Part of the plan includes the extension in 1941 of the Bureau's quarterly index to 20 selected cities from 5,000 to 50,000 population; part of it includes the study of additional specific cities affected by defense activity. These special studies were made for five cities—Bridgeport, Conn.; Corpus Christi, Tex.; Gadsden, Ala.; San Diego, Calif.; and South Bend, Ind.—in October 1940, and again in January 1941. Except for rents, which advanced considerably, changes in cost of living in these five cities were similar in most respects to those in the larger cities of the country.

The average increase in the rental bill of wage earners and lower-salaried workers in these cities ranged from 1.0 percent in San Diego to 7.3 percent in South Bend between October 1939 and October 1940, whereas, throughout the large cities of the country the advance was much smaller, averaging only 0.3 percent. Higher rents were a

direct consequence of sharply increased demand for housing, caused by increased defense activities in the areas.

In each of these five cities, construction of new dwellings to ease the acute housing shortage has been requested under the Lanham Act. That act appropriated \$150,000,000 to be used for defense housing in such cities as the President designates. In San Diego, construction under this act is already going forward. In San Diego and Corpus Christi, the Navy is also building dwellings for civilian workers on defense projects. In Corpus Christi and in Bridgeport, the city housing authorities also have projects under way.

During the late fall and early winter, living costs rose in four of the five cities. In all five cities rents were raised between October 15, 1940, and January 15, 1941. In all of these cities, also, considerable price increases occurred for some foods and other articles which are important in the budgets of moderate-income families, with the exception of some articles of clothing for which prices were cut in the January sales in each of the cities except Gadsden.

Table 5 shows percent of change in the cost of goods purchased by wage earners and lower-salaried workers in these five cities, by groups of items, from October 15, 1939, to January 15, 1941.

TABLE 5.—Percent of change in cost of goods purchased by wage earners and lower-salaried workers in Bridgeport, Corpus Christi, Gadsden, San Diego, and South Bend, October 1939–January 1941

City and period	Percent of changes in cost of—						
	All items	Food	Clothing ¹	Rent	Fuel, electric-ity and ice	House furnishings	Mis-cella-neous
Bridgeport, Conn.: Oct. 1939–Jan. 1941.....	+1.3	+0.7	-1.2	+3.9	+3.9	+0.8	+0.8
Oct. 1939–June 1940.....	+1.0	+2.7	(²)	+5	+2.6	-6	³ -9
June 1940–Oct. 1940.....	-3	-3.1	(²)	+2.4	+8	+7	³ +1.3
Oct. 1940–Jan. 1941.....	+6	+1.2	-1.2	+1.0	+5	+7	+4
Corpus Christi, Tex.: Oct. 1939–Jan. 1941.....	+8	+6	+4	+4.6	-9	-2.5	+2
Oct. 1939–June 1940.....	³ -2.4	-6.6	+1.3	+1.2	-9	-2.8	³ -1.4
June 1940–Oct. 1940.....	³ +2.2	+5.5	-1	³ +6	(²)	³ +3	³ +1.2
Oct. 1940–Jan. 1941.....	+1.1	+2.1	-8	+2.6	(²)	(²)	+4
Gadsden, Ala.: Oct. 1939–Jan. 1941.....	+1.3	+2.4	+1.1	+2.0	+2.0	-2.0	+5
Oct. 1939–June 1940.....	-1.7	-5.0	+1.2	+9	-2.2	-2.9	-8
June 1940–Oct. 1940.....	+1.9	+4.7	-1	+4	+4.2	+7	³ +8
Oct. 1940–Jan. 1941.....	+1.1	+2.9	(²)	+7	(²)	+2	+5
San Diego, Calif.: Oct. 1939–Jan. 1941.....	+1.0	+3	-4	+4.8	-4.3	-6	+9
Oct. 1939–June 1940.....	-8	-2	(²)	(²)	-1.8	-1.3	-2.0
June 1940–Oct. 1940.....	+9	-1	-2	+1.0	(²)	+1	+2.4
Oct. 1940–Jan. 1941.....	+9	+6	-2	+3.8	-2.5	+6	+5
South Bend, Ind.: Oct. 1939–Jan. 1941.....	+2.2	+1.6	-9	+7.9	-1.9	-7	+1.8
Oct. 1939–June 1940.....	+3	+3	+4	+4.0	-5.3	³ -2.0	-1
June 1940–Oct. 1940.....	+1.9	+1.4	-1	³ +3.3	³ +3.2	³ +5	+2.0
Oct. 1940–Jan. 1941.....	(²)	-1	-1.2	+6	+2	+8	-1

¹ January 1941, level affected by January sales.

² Revised. No change.

³ Revised.

⁴ No change.

Cost of Living in Foreign Countries

The principal index numbers of the cost of living (official and unofficial) published in the different countries are printed in current issues of the International Labour Review. These indexes are presented in each quarterly issue of the Bureau of Labor Statistics' pamphlet Changes in Cost of Living.

Place Differences in Living Costs

Measures of differences in living costs between localities at a given time are less satisfactory than those which have been developed to measure time-to-time changes. The time-to-time indexes themselves cannot be used for this purpose. The only comparison between cities that can be drawn from an index of changes in living costs from time to time is a comparison of the extent of change in living costs in different cities over given periods. Differences between the average costs from which indexes of time changes are computed in different cities are due to differences in standards and in purchasing habits in those cities as well as to varying prices for goods of given grades. Differences between the indexes of costs from time to time in the various cities at any particular date are due entirely to differences in the percentage of change in living costs in each city.

WPA Maintenance Budget

The most widely used measure of difference in living costs from place to place is the cost of the WPA "maintenance" budget. In March 1935, the Division of Social Research of the Works Progress Administration conducted a study of comparative living costs in 59 cities. The purpose of this study was to determine the cost of a uniform level of living in these cities at a given time, and how its cost compared from one city to another. Quantity budgets were constructed by the Works Progress Administration to represent the needs of families at two levels of living—the "basic maintenance" level, and the "emergency" level. An identical budget for each of these levels of living, with certain adjustments in the fuel, ice, and transportation lists to take account of climatic and other local conditions, was used in each city. The Bureau of Labor Statistics of the United States Department of Labor cooperated with the Division of Social Research of the Works Progress Administration in obtaining the prices necessary to compute the costs of the two budgets. As far as possible, prices for identical commodities were obtained in each city. Details of this study and a description of the goods and services included in each budget can be found in the report *Research Monograph XII: Intercity Differences in Costs of Living in March 1935, 59 Cities*, a copy of which may be obtained from the Division of Research, Work Projects Administration, Washington, D. C.

Between March 1935 and the spring of 1939, no attempt was made to price these budgets. In order to bring the intercity comparison of costs up to date, estimates of the cost of the "maintenance" budget were made, however, for the 31 cities covered by both the Works Progress Administration study and the Bureau of Labor Statistics studies of changes in the cost of goods purchased by wage earners and lower-salaried workers.

This budget does not approach the content of what may be considered a satisfactory American standard of living, nor does its cost measure what families in this country would have to spend to secure "the abundant life." (See page 120 for discussion of living standards.) Such a standard would include an automobile, better housing and equipment, a more varied diet, and preventive medical care. Provision would

be made for future education of the children and for economic security through saving. These and other desirable improvements above a maintenance level of living would require annual disbursements considerably in excess of the money values of the budget used in this investigation. By applying the Bureau of Labor Statistics indexes of living costs, which show changes in costs from time to time, to the Works Progress Administration data on intercity differences in costs in March 1935, approximate intercity comparisons of costs were obtained. The cost-of-living indexes of the Bureau of Labor Statistics are based on a budget weighted differently from the budget used in the Works Progress Administration study, and therefore, when the two sets of figures were combined, the resulting estimates of intercity differences in costs were merely approximations.

Early in 1939, the Works Progress Administration budgets were, in part, priced again for many of the cities. At that time the Bureau of Labor Statistics, in connection with its study of comparative living costs in 10 small cities,¹ computed the cost of parts of the "maintenance" budget using prices obtained as of December 15, 1938, and February 14, 1939.

The costs of clothing, housefurnishings, fuel and light, and miscellaneous groups were recomputed on the basis of prices of 55 articles of clothing, 16 articles of furniture and furnishings, 5 items of fuel and light, and 37 miscellaneous items in 31 cities on December 15, 1938, and weighted by the quantities provided in the "maintenance" budget. The food-cost budget was entirely recomputed in terms of the "adequate diet at minimum cost" of the United States Bureau of Home Economics (a somewhat more varied diet than that originally used in the "maintenance" budget). Average rents in each of the 31 cities were estimated by applying the Bureau's time-to-time indexes of rental costs to the Works Progress Administration's figures for March 1935. In order to include Manchester and Milwaukee (recently added to the cities for which the Bureau prepares indexes of time changes) among the cities for which estimates of intercity differences are regularly prepared, similar computations have been made for these cities, using prices as of September 15, 1940.

The Bureau of Labor Statistics has prepared estimates of the cost of the "maintenance" budget as of March 15, 1941, by applying the Bureau's indexes of living costs (which show changes in costs from time to time) to the costs as previously estimated, for all items other than food. The "adequate diet at minimum cost" was recalculated as of March 15, 1941, for inclusion in the budget on the basis of 61 foods now priced by the Bureau of Labor Statistics. The attached tables show the estimates by cities. Table 1 shows (1) the estimated cost of living for a 4-person manual worker's family, at the "maintenance" level as defined by the Works Progress Administration in 33 large cities, as of March 15, 1941, and (2) indexes based on the cost in Washington, D. C., as of that date as 100.

¹ A study of differences in living costs in northern and southern cities was made at the request of the Wage and Hour Division (see p. 100).

TABLE 1.—*Estimated¹ cost of living for a 4-person manual worker's family at maintenance level² in 33 large cities, as of Mar. 15, 1941*

City	Total	Food	Clothing	Housing	Fuel, electric-ity, and ice	House-furnish-ings	Miscel-laneous
Atlanta	\$1,339.68	\$478.87	\$162.70	\$285.76	\$89.76	\$30.48	\$292.11
Baltimore	1,339.62	476.58	167.05	252.87	103.18	36.40	303.54
Birmingham	1,305.90	483.82	172.44	238.48	70.09	32.20	308.87
Boston	1,436.37	481.38	171.38	260.71	136.67	32.73	353.50
Buffalo	1,327.72	474.50	170.77	243.67	109.44	33.04	296.30
Chicago	1,468.68	486.57	160.14	292.28	129.12	31.87	368.70
Cincinnati	1,356.67	468.71	178.60	269.74	95.23	35.35	309.04
Cleveland	1,420.16	474.04	177.16	287.94	112.60	34.07	334.35
Denver	1,298.24	446.81	163.83	237.98	112.26	33.19	304.17
Detroit	1,449.62	472.46	170.05	309.95	113.11	32.42	351.63
Houston	1,331.84	458.72	161.27	245.49	85.69	35.27	326.40
Indianapolis	1,318.91	463.97	160.47	246.30	96.52	32.93	318.72
Jacksonville	1,331.37	489.66	149.62	231.84	102.02	32.77	325.46
Kansas City	1,259.52	456.47	172.79	209.63	106.19	33.20	281.24
Los Angeles	1,348.62	463.13	170.10	242.22	71.13	35.61	366.43
Manchester	1,342.87	493.48	154.34	192.29	152.44	32.19	318.13
Memphis	1,317.08	450.85	173.35	268.30	81.63	35.00	307.95
Milwaukee	1,413.86	476.66	141.99	288.60	123.08	31.05	352.48
Minneapolis	1,431.83	487.75	164.54	306.08	136.75	32.34	304.37
Mobile	1,196.15	467.26	155.67	188.32	78.51	33.97	272.42
New Orleans	1,277.30	471.15	164.04	209.04	70.79	37.56	324.72
New York	1,519.44	527.42	166.65	309.58	121.62	33.68	360.49
Norfolk	1,361.77	488.53	173.26	258.93	97.52	34.44	309.09
Philadelphia	1,344.72	478.25	169.88	258.18	102.12	33.43	302.86
Pittsburgh	1,400.89	496.55	167.28	287.51	91.02	34.13	324.40
Portland, Maine	1,356.45	499.62	163.28	201.53	146.40	32.71	312.91
Portland, Oreg.	1,338.79	487.39	160.42	192.34	131.41	34.28	332.95
Richmond	1,343.95	457.35	167.77	253.01	104.57	34.93	326.32
St. Louis	1,407.62	489.25	163.27	283.75	110.48	36.15	324.72
San Francisco	1,480.32	502.89	172.67	286.37	84.77	37.37	396.25
Scranton	1,387.04	495.79	161.35	266.10	95.06	32.48	336.26
Seattle	1,387.11	499.16	172.31	198.26	121.03	35.07	361.28
Washington, D. C.	1,498.00	489.90	173.28	351.83	114.36	36.90	331.73

Indexes (cost in Washington, March 15, 1941=100)							
Atlanta	89.4	97.7	93.9	81.2	78.5	82.6	88.1
Baltimore	89.4	97.3	96.4	71.9	90.2	98.6	91.5
Birmingham	87.2	98.8	99.5	67.8	61.3	87.3	93.1
Boston	95.9	98.3	98.9	74.1	119.5	88.7	106.6
Buffalo	88.6	96.9	96.6	69.3	95.7	89.5	89.3
Chicago	98.0	99.3	92.4	83.1	112.9	86.4	111.1
Cincinnati	90.6	95.7	103.1	70.7	83.3	95.8	93.2
Cleveland	94.8	96.8	102.2	81.8	98.5	92.3	100.8
Denver	86.7	91.2	94.5	67.6	98.2	89.9	91.7
Detroit	96.8	96.4	98.1	88.1	98.9	87.9	106.0
Houston	87.6	93.6	93.1	69.8	74.9	95.6	98.4
Indianapolis	88.0	94.7	92.6	70.0	84.4	89.2	96.1
Jacksonville	88.9	100.0	86.3	65.9	89.2	88.8	98.1
Kansas City	84.1	93.2	99.7	59.6	92.0	90.0	84.8
Los Angeles	90.0	94.5	98.2	68.8	62.2	96.5	110.5
Manchester	89.6	100.7	89.1	54.7	133.3	87.2	95.9
Memphis	87.9	92.0	100.0	76.3	71.4	94.9	92.8
Milwaukee	94.4	97.3	81.9	82.0	107.6	84.1	106.3
Minneapolis	95.6	99.6	95.0	87.0	119.6	87.6	91.8
Mobile	79.8	95.4	89.8	53.5	68.7	92.1	82.1
New Orleans	85.3	96.2	94.7	59.4	61.9	101.8	97.9
New York	101.4	107.7	96.2	88.0	106.3	91.3	108.7
Norfolk	90.9	99.7	100.0	73.6	85.3	93.3	93.2
Philadelphia	89.8	97.6	98.0	73.4	89.3	90.6	91.3
Pittsburgh	93.5	101.4	96.5	81.7	79.6	92.5	97.8
Portland, Maine	90.6	102.0	94.2	57.3	128.0	88.6	94.3
Portland, Oreg.	89.4	99.5	92.6	54.7	114.9	92.9	100.4
Richmond	89.7	93.4	96.8	71.9	91.4	94.7	98.4
St. Louis	94.0	99.9	94.2	80.6	96.6	98.0	97.9
San Francisco	98.8	102.7	99.6	81.4	74.1	101.3	119.4
Scranton	92.6	101.2	93.1	75.6	83.1	88.0	101.4
Seattle	92.6	101.9	99.4	56.4	105.8	95.0	108.9
Washington, D. C.	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ See explanation of method on pp. 97 and 98.² As defined for all groups except food by the Works Progress Administration in its Research Monograph XII: Intercity Differences in Cost of Living in March 1935, 59 Cities. The food budget is computed in terms of the "Adequate Diet at Minimum Cost" of the U. S. Bureau of Home Economics.

Difficulties of Place-to-Place Comparisons

The methods used in the above estimates are subject to some error, because of differences in the relative importance of given items in the WPA maintenance budget and in the weights of the time-to-time cost-of-living index. The error would be accentuated if a rise in prices occurred.

Another limitation is the lack of realism in adhering to an identical list of commodities for all cities regardless of climate and custom, as is done in the WPA maintenance budget. The case of overcoats in New Orleans and Boston illustrates this point. What is really required is a standard which provides the same level of economic well-being, yet has elasticity enough to adapt to variations in local customs.

The most satisfactory technique yet devised is probably the pricing of a budget of some sort, comprising a more or less fixed list of items, with some allowance for regional differences in consumption habits to indicate whether a given wage will buy the same level of living in one part of the country as in another.

There is a considerable body of literature dealing with the development of techniques to meet this problem. The Bureau used a different method of estimate in its study of the cost of living in five small southern and five small northern cities, but the results were not very different from those obtained when the fixed list of items was employed. The International Labor Office have done work in the field, and Ragnar Frisch and Hans Staehle have experimented with techniques of different types, but no single solution has been found.

Differences in Living Costs in Northern and Southern Cities

The Bureau of Labor Statistics in 1939 made a survey of living costs in five northern and five southern cities. This survey was undertaken at the request of the Wage and Hour Division, in order to supply information on questions arising in the administration of the Fair Labor Standards Act of 1937.

The object of the inquiry was to ascertain what differences, if any, exist between northern and southern cities of approximately the same size in expenditures necessary to maintain the same level of living. That is to say, for any given expenditure in northern cities, what expenditure in southern cities of about the same size will provide an equivalent living? To answer this question, living costs in the two regions had to be compared. Thus, the term "living costs" as here used means the expenditures necessary to purchase a given level of economic well-being.

The survey covered the following 10 cities with populations ranging from 10,000 to 19,000:

	<i>Population</i>	|	<i>Population</i>	
Chillicothe, Ohio.....	18,340	|	Hattiesburg, Miss.....	18,601
Dover, N. H.....	13,573	|	Sherman, Tex.....	15,713
Hanover, Pa.....	11,805	|	Statesville, N. C.....	10,490
Holland, Mich.....	14,346	|	Sumter, S. C.....	11,780
Little Falls, N. Y.....	11,105	|	Thomasville, N. C.....	10,090

The importance of this size group in consideration of regional differences may be seen from the fact that in 1930, 14.7 percent of the urban population in the South Atlantic and South Central Divisions and 13.1 percent of that in the New England, Middle Atlantic, and North Central Divisions were living in cities of 10,000 to 25,000 population.

The cities covered are all industrial communities, and were selected to represent the types of production on which industry committees were likely to rule on wage rates during 1940. They are independent communities, not satellites of a nearby larger city. They each have more than 1,000 wage earners employed in manufactures. No extreme changes in employment have occurred in them in recent years, and such changes as have occurred have been in line with changes in the entire region concerned. A relatively small proportion of the dwellings occupied by their wage earners are company owned.

Results of Study

The cost of living in the five small southern cities surveyed, as shown by indexes that represent averages obtained from making two separate comparisons, one based upon northern consumption, the other based upon southern consumption, was found to be 3.1 percent lower on the average than in the five northern cities of the same size. Food prices were virtually the same, and lower housing and fuel costs in the five southern cities were partially offset by higher prices for clothing, furniture, furnishings and equipment, and miscellaneous items. It is of interest to note that the difference of 3.1 percent in living costs between the northern cities as a group and the southern cities as a group is smaller than the differences between some of the cities in the same region. The lowest as well as highest cost in the 10 cities surveyed was found in the northern group.

TABLE 2.—*Indexes of living costs of wage earners in 10 small cities, December 15, 1938*

[Average for the 10 cities = 100.0]

Region and city	Indexes ¹ of—						
	Total	Food ²	Clothing	Housing	Fuel, light, and refrigeration	Furniture, furnishings, household equipment	Miscellaneous
Northern cities.....	101.6	99.9	99.0	103.9	120.6	98.1	98.5
Chillicothe.....	103.5	99.3	105.4	119.8	96.8	102.0	100.9
Dover.....	109.2	109.9	93.1	121.0	143.3	98.7	99.8
Hanover.....	94.6	96.4	89.5	86.2	112.2	97.8	93.7
Holland.....	96.7	94.5	105.0	82.6	119.8	92.5	98.3
Little Falls.....	103.9	99.3	102.0	110.1	130.7	99.5	99.6
Southern cities.....	98.4	100.1	101.0	96.0	79.4	101.8	101.5
Hattiesburg.....	97.9	99.3	102.9	83.7	78.5	107.9	106.2
Sherman.....	95.0	95.6	103.5	79.2	82.0	99.9	103.0
Statesville.....	102.0	102.2	106.4	102.1	88.7	104.0	103.6
Sumpter.....	99.8	100.1	92.3	121.3	76.8	95.3	97.1
Thomasville.....	97.2	103.3	100.1	93.7	70.9	101.8	97.6

¹ The budgets used are based upon data from the Study of Consumer Purchases. Average purchases of wage earners in 9 New England and East North Central small cities were derived from the survey made by the U. S. Bureau of Labor Statistics. Average purchases of wage earners in the 4 southeastern small cities were supplied by the U. S. Bureau of Home Economics.

² Prices apply to Feb. 14, 1939.

The budgets used for the two regions are not hypothetical budgets prepared to reflect presumed typical habits. They are based upon actual purchasing habits of both northern and southern wage-earner families as determined by the Study of Consumer Purchases. The northern budget is based upon average family consumption in small New England and North Central cities. The southern budget is based upon average family consumption in small South Atlantic cities. In addition, prices were collected in each of the 10 towns studied only on those items which retail dealers sold with some frequency. Items which were not generally sold by dealers in both regions were not included in the comparison. The quantities used are those actually consumed by wage-earner families; the prices used are those actually paid.



STANDARDS AND PLANES OF LIVING

Bureau of Labor Statistics Study of Money Disbursements of Wage Earners and Clerical Workers ¹

The United States Bureau of Labor Statistics made a Nation-wide study of money disbursements of wage earners and lower-salaried clerical workers in 1934-36 which covered 12,903 white families and 1,566 Negro families in 42 cities with a population of over 50,000.

All families included in the survey met the following requirements: Family incomes of at least \$500 per year; no receipt of relief, either direct or work relief, during the survey year; at least one earner employed for 36 weeks and earning at least \$300; no clerical worker earning over \$200 per month or \$2,000 per year.

Income

The 14,469 families averaged 3.6 persons each and their average income was \$1,524. Half of them had incomes below \$1,458. The average income of the 12,903 white families was \$1,546 and of the 1,566 Negro families was \$1,008. The income of the 28 percent of families in which the chief earner was a clerical worker averaged \$1,642. Corresponding figures for other occupational groups were: Skilled worker (23 percent), \$1,661; semiskilled worker (35 percent), \$1,437; unskilled worker (14 percent), \$1,255.

Expenditures

Data based on actual expenditures of these families show the overwhelming importance of food, clothing, and housing, including fuel, light, and refrigeration. These expenses were about two-thirds of the total, even at the highest income levels surveyed. Outlays for the major categories of family spending are shown in the fol-

¹ By Faith M. Williams and Alice C. Hanson. For a general summary of this study see Bulletin No. 638 of the Bureau of Labor Statistics, and articles in the Monthly Labor Review, December 1939 to July 1940. Separate results for each study appear in a series of bulletins (Nos. 636, 637, 639, 640, and 641).

lowing table. The figures show not only the average for all families surveyed, but the changing proportions claimed by the various categories at relatively low, intermediate, and high income levels.

Average yearly money expense of 14,469 families in 1934-36, for main categories of family spending

Item	All families		Families with annual net income of—		
	Amount	Percent	Under \$1,200	\$1,200 to \$1,800	\$1,800 and over
			Percent 100.0	Percent 100.0	Percent 100.0
All items.....	\$1,512	100.0			
Food.....	508	33.5	36.2	33.9	31.7
Clothing.....	160	10.6	9.0	10.2	11.9
Housing.....	259	17.1	19.5	17.7	15.3
Fuel, light, and refrigeration.....	108	7.1	8.6	7.4	6.2
Other household operation.....	58	3.8	3.4	3.7	4.2
Furnishings and equipment.....	60	4.0	3.4	4.1	4.0
Automobile and motorcycle—purchase, operation, and maintenance.....	87	5.8	3.2	5.7	7.3
Other transportation.....	38	2.5	2.7	2.4	2.5
Personal care.....	30	2.0	2.0	2.0	2.0
Medical care.....	59	3.9	3.8	3.9	4.0
Recreation.....	82	5.4	4.8	5.3	5.9
Education.....	7	.5	.3	.4	.6
Vocation.....	6	.4	.3	.3	.5
Community welfare.....	19	1.3	1.2	1.2	1.3
Gifts and contributions to persons outside the economic family.....	24	1.6	1.1	1.4	2.0
Other items.....	7	.5	.5	.4	.6

It is clear that with a family income of \$1,200 or less per year average expenditures for food, clothing, and housing absorbed such a large part of the total that the margin left for recreation, medical care, transportation, and other items was necessarily small. At higher incomes, larger quantities and better food were consumed, housing was better, and clothing more varied and attractive, but still there was a proportionately greater share of the total available for miscellaneous categories of family spending.

Importance of Size of Family

In order to obtain a full picture of what may be called the economic level at which a family lives, it is necessary to take account of the complicating effect of family size and composition, and not merely of the size of family income. For example, a family composed of a young husband and wife only may live quite comfortably on an income of \$1,500. Another family, however, composed of an elderly father, a middle-aged married couple, and four children ranging in age from 6 to 20 must forego many things the first family can afford, if it is to stay within its \$1,500; that is, it must live at a lower economic level.

This difference in family composition and size can be taken account of by classifying families according to total expenditure per family member. In counting the number of family members, the moderately active man is taken as one unit, and each other member is counted in proportion, making due allowance for the customary consumption of persons of different age, sex, and activity.

Such a classification has been used, in addition to the family income classification, in the reports giving the results of this survey by regions. It is also used in the tables in Bulletin No. 638 which present details of family expenditure.

Current expenditure per family member averaged \$455. When families were classified by economic level, the largest families were found at the lowest levels. Fifteen percent of the families and 35 percent of the children were in the group spending less than \$300 per year per family member. At this level, the families averaged $5\frac{1}{2}$ persons. Of their total current expenditures 41 percent was spent for food, 26 percent for housing, fuel, light, and refrigeration, and 10 percent for clothing. Less than a quarter of the total could be used for the many other things which urban families must buy.

Expenditures for Specified Items

Food.—Food expenditures constitute the most important single item in the family budgets of the entire group of families surveyed, taking 33.5 percent of the average family's expenditure. Despite the fact that food took first place in expenditures, a large proportion of these families did not spend enough to obtain the amount and kinds of food needed for good health for all the family and for normal growth of the children. Although most of them had sufficient food to avoid actual hunger, only about 75 percent of the white families and 32 percent of the Negro families spent enough to buy the recommended "minimum-cost adequate diet" of the Bureau of Home Economics.

This diet consists of lists of low-cost foods in proportions and quantities sufficient to yield a balanced ration for persons of different age, sex, and activity. The retail cost of each of these diets in each city was computed by the Bureau of Labor Statistics on the basis of prices reported from retail stores for the year in which the consumption survey discussed here was conducted. From these costs it was then possible to compute the cost of the Bureau of Home Economics "minimum-cost adequate diet" for a family of any stated composition. The actual food expenditure of each family could then be compared with the computed cost of the minimum adequate diet for that family. Although this comparison does not furnish information on the proportion of families actually attaining adequate diets, it does furnish an estimate of the proportion of families spending enough for food to have obtained an adequate diet if the food selections had been wisely made, and indicates that more than 70 percent met that test.

Housing.—Housing expenditures, the item of next importance in the spending of these families, averaged \$34 per month. This figure includes expense for fuel, light, and refrigeration, rent, and rental value of owned homes. Two-fifths of these families lived in 1-family detached houses; one-fourth lived in apartments; and the rest in semi-detached, row, or 2-family houses.

The home of the typical wage earner or clerical family with an income above \$500 had a bathroom with inside flush toilet and hot running water. It had electric lights, and gas or electricity for cooking. Seventy-eight percent surveyed had all of the facilities just

mentioned. Two-thirds of the families had central heat in their homes. Ice was used for refrigeration by two-thirds of these families in 1934-36. During and since that period there has been a great increase in sales of mechanical refrigerators. Twenty-six percent had electric refrigerators at the time of the study, and the proportion is doubtless larger now. Forty percent of the homes had garages and 30 percent, telephones.

Seventy percent of the families surveyed rented their homes. Of these, 38 percent lived in houses, 24 percent rented heated apartments, and 38 percent rented unheated apartments. Thirty percent of the families were home owners; all but a negligible fraction of these lived in houses; a few lived in apartments of which they were owners or part owners.

The total money expense of home owners for taxes, assessments, interest, insurance, repairs, fuel, light, and refrigeration was \$27 a month. When the return on their capital investment is taken into consideration, their total monthly housing expenditure actually amounted to \$39. Families renting heated apartments paid an average of \$35 for rent, light, gas, and refrigeration. Rent, fuel, light, and refrigeration both for families renting unheated apartments and for families renting houses averaged \$31 per month.

Housefurnishings and household operation.—About one-twelfth of the total expenditure was absorbed by household expenses other than rent, heat, and light. These expenditures were for furnishings and household equipment, cleaning supplies, laundry and domestic service, telephone, water rent, insurance on furniture, and other items connected with the running of the home. The average annual expenditure of all families for furnishings and equipment was \$60 and for household operation, \$58. Expenditures for furnishings and equipment were very limited at the lowest income level, where they amounted to only 2 percent of total expenditure. They rose to about 4 percent at the \$2,000 income level, after which they showed a tendency to decline as a proportion of total expenditure. Expenditures for household operation increased from about 3 percent at the lowest income level to almost 4½ percent at the highest. The increase in the amount paid for household operation as income increased was due principally to greater use of laundry service and paid help. The total amount spent for the family home, including rent, value of housing "in kind" from investment in owned home, fuel, light, and refrigeration, furnishings, telephone, etc., averaged for all the families about \$44 per month, ranging from about \$20 per month for families with incomes of \$500 to \$600 a year to over \$50 for those with incomes above \$1,800.

Clothing.—Clothing expenditures, the third most important item in relative importance, claimed 10.6 percent of total family expenditure. The urgency with which families regard the need for comfortable and socially appropriate clothing is evidenced by the larger outlay for clothing per family at higher income levels. As incomes permitted, these families of wage earners and clerical workers spent for clothing not only more dollars, but a larger proportion of the total family expenditure. When families were classified by amount of total expenditure per family member a sharp increase in clothing expenditure per person was found at higher economic levels. Im-

portant differences were noted in total clothing expenditures of persons of different age, sex, and occupation, even when allowance was made for differences in income and family size. Employed women spent most, then employed men, followed by women at home and men at home. For both men and women over 18, outerwear (that is coats, sweaters, suits, shirts, dresses, and blouses) represented the major clothing expenditure. The men bought a new overcoat or topcoat on the average once in 5 years, at an average price of \$21, and a new wool suit once in 2 years at an average cost of \$24.

The second major clothing expense for both men and women was footwear, including shoes, slippers, rubbers and arctics, and hose. It represented a larger expenditure, both in dollars and as a percentage of the total, for women than for men. This fact is largely explained by the importance of silk stockings in the women's clothing expenditures. Women's silk and rayon stockings cost 72 cents per pair on the average and accounted for \$7.41 per year for each person, almost as much as shoes which cost the average woman in these workers' families \$7.85 a year.

Automobiles and other transportation.—Forty-four percent of all the families covered in this study owned automobiles. Almost all were purchased second-hand rather than new. Of these families nearly 2 percent owned more than one automobile, and practically all of them included grown sons and daughters who pooled their earnings with those of their elders. The average net purchase price (gross price, minus trade-in allowance) was \$300 per family purchasing an automobile.

The percentage of total expenditure devoted to "other" transportation was less at the higher economic levels. The principal factor in this decline was the smaller proportion of expenditures going to streetcar fares as automobile ownership became more frequent.

Radios.—That the habit of "listening to the radio" has become widespread is shown by the high proportion of the families reporting radio ownership in 1934-36. Seventy-four percent owned a radio. Even among those families spending less than \$200 per year per family member for all items of family living, 40 percent had a radio.

Recreation.—The average expenditure for tobacco accounted for over a third of the total spent for recreation. Cigarette purchases were reported by only a little over half the families at the low economic level but by three-fourths at the high level. About 50 cents per week per family spending went for this purpose at the low economic level compared with almost 90 cents at the high economic level. Reading of the daily paper and some attendance at movies were almost universally reported.

Medical care and personal care.—When these families had paid for the basic requirements of urban living—food, shelter, clothing, transportation, and recreation—they had, on the average, a margin of only one-tenth of their total expenditure for medical care, personal care, gifts, direct personal taxes, formal education, and miscellaneous items. Thus it is not surprising to find that the actual average expenditure of all families for medical care, \$59 per family or \$16 per person, was far below the amount that has been estimated as necessary to obtain adequate medical care. The greatest part of this expenditure went to the general practitioner while the dentist received the next largest share. These expenditures combined with those for med-

icines and drugs comprised over one-half of the total expenditure for medical care. The balance went for services of hospitals, specialists, and nurses, and for eyeglasses, medical appliances, and miscellaneous medical expense.

The average family expenditure of \$30 for personal care was about equally divided between services of barber and beauty shops and the purchase of toilet articles and preparations. Haircuts accounted for \$10 of the \$16 total for personal-care services, permanent waves for \$2, and other waves for \$1.70. Practically all of the families (96 percent) bought toilet soap as well as laundry soap. The same proportion reported expense for haircuts.

Education, vocation, and miscellaneous.—Formal education, vocational expense (including such items as union dues), and miscellaneous expenditures each took one-half of 1 percent or less of total family expenditure. Such expenditures and those for community welfare all tend to be highly variable. Individual families spent from nothing to rather large amounts in this way.

Savings.—In the aggregate, the current incomes of the families studied were a little greater than their current expenditures. The average savings amounted to \$11. Among families with incomes from \$500 to \$600 (the lowest income level included in this study) the year brought a deficit, with an average net change in assets and liabilities for all families of \$80. This deficit became progressively smaller at successive income levels, and changed to an average surplus at the \$1,500 to \$1,800 income level. The average surplus was greater at each higher income class, reaching a maximum of \$231 for families with incomes of \$3,000 and over. In this report expenditure for life-insurance premiums is treated as savings.

Comparison of White and Negro Families

The principal differences noted in the spending of white and Negro families are associated with income differences. The same requirements for inclusion in the survey were applied to white and to Negro families. As relatively more Negroes than whites were on relief or unemployed at the time of the survey, the Negroes included represented the higher stratum of Negro wage earners and clerical workers. Despite this fact, the incomes of the Negro families included were substantially below those of the white families.

When expenditures for white families were compared with those for Negro families at the same income level or economic level, few marked differences were found. The principal ones were that Negroes saved more because of their almost universal practice of paying insurance premiums; that they contributed more to relatives; and that they spent somewhat less for food. In Northern cities, Negro families spent more for housing than white families at the same income level, but the reverse was found in the South.

Regional Differences

The generalized averages for 42 cities combined necessarily do not show differences between localities. Separate data for individual cities have been presented in the series of bulletins mentioned earlier. When a comparison is made of differences in family-spending patterns

between regions, many of these differences are found to be due to income variations. Some are of course associated with climate and custom. Regional differences in averages for main categories of spending are in general small between families at the same income level. For families with income between \$1,200 and \$1,500 the category which showed the largest regional difference was housing. New York City families had the largest expenditure for housing including fuel, light, and refrigeration. Other North Atlantic cities had the second greatest expenditure and Pacific coast cities the lowest housing expenditure. One of the most interesting contrasts found was the difference in expenditures for automobile purchase, operation, and maintenance. The highest average expenditure was found among the Pacific coast families, with families in the West North Central, East North Central, Southern, and North Atlantic regions following in the order named. Families in New York City had the lowest average automobile expenditure. In fact the average expenditure for automobile purchase, operation, and maintenance in Pacific coast cities was nine times greater than the average for New York City.



Changes in Family Expenditures in the Post-War Period

In the period since the close of the World War in 1918, technological advances in agriculture, in engineering, and in production methods, which had been developing over a long period, combined to place at the disposal of wage earners and clerical workers in the United States a wide array of consumers' goods which had not been available to them before. Some of these goods were actually new; for example, canned tomato juice, rayon fabrics, and certain types of electrical equipment. More of them had been in the markets before, but at prices higher than moderate-income families could pay.

New developments in agricultural production and in transcontinental refrigerator cars began to bring oranges and grapefruit, lettuce and spinach to urban markets the year round at prices considerably lower than those prevailing before the war. Motorcar production entered a new phase. Passenger automobiles had been produced commercially since the nineties, but the cost of a car was for a long time far out of the reach of the average American family.

Silk stockings had been a luxury to women in the moderate-income group before the war period. In most stores the only kind of silk hose sold was a very heavy service-weight stocking, with a mercerized top, double-sole lisle foot, with a silk "boot" only 20 inches high. They cost \$2 a pair at retail. In the period after the war the much more attractive sheer and semiservice hose, with silk feet and a 25-inch "boot," began to appear in all the stores, at a lower price, and silk stockings for everyday became the rule even for women in moderate-income families.

Electric power, which had been available to few in the wage-earner and clerical groups before 1918, has declined in price over the period, and dwellings wired for electric lights and small electrical appliances have come within the range of the purchasing power of the average employed worker.

At the end of the war period the results of extensive researches into the physiological needs of the human body reached the stage where they could be popularized, and Americans for the first time became aware of minerals and vitamins in foods and their importance in human nutrition. War-time restrictions were relaxed and a Nation which had learned to count its calories went on to attempt an understanding of other factors affecting diet. This new information, together with lower food prices in general and the lower prices of certain nutritionally valuable foods in particular, and also the greater availability of fruits and vegetables all the year round, combined to produce striking changes in American food expenditure.

The Bureau of Labor Statistics study of the money disbursements of wage earners and clerical workers in 1934-36¹ provided figures on expenditure patterns at that time, with which similar data secured in 1917-19² may be compared.

The 1917-19 study covered the expenditures of families of husband and wife and at least one child for 12 months within the period from August 1, 1917, to February 28, 1919. Seventy-five percent of the material applies to the year 1918. In the interval between the end of this study and the beginning of the 1934-36 investigation, the cost of living in the larger cities of the country rose to a high point in May 1920, dropped sharply until December 1921, and rose again gradually until December 1925. In 1926 costs began to decline again, gradually until December 1929, sharply between that date and June 1933, rising again thereafter. The result of all these changes was that total living costs for wage earners and clerical workers in large cities were approximately 5 percent lower in the period included in the recent investigation than in that included in the bench-mark study at the end of the World War. Costs for different types of goods and services had moved quite differently in the interval. The following statement shows the estimated net percent of change in the various groups of items from the period covered by the 1917-19 study to that of the 1934-36 study:

	<i>Percent of change</i>
Food	-24
Clothing	-15
Rent	-1
Fuel and light	+29
Housefurnishings	-4
Miscellaneous items	+34
All items	-5

The sharp decline in food costs was caused partly by the development of new and more efficient techniques of agricultural production and partly by the falling off in the European demand for American agricultural products. Clothing costs had declined partly because of the invention of new methods of textile production, partly because of improvements in the mass production of moderate-price, ready-to-wear clothes. Fuel and light costs were higher, largely because coal prices had been controlled at relatively low levels during the World War period. The cost of miscellaneous items purchased by moderate-income families (medical service, movies, laundry service, telephone,

¹ See U. S. Bureau of Labor Statistics Bulletin No. 638: Money Disbursements of Wage Earners and Clerical Workers, 1934-36—Summary Volume.

² U. S. Bureau of Labor Statistics Bulletin No. 357: Cost of Living in the United States, Washington, 1924.

and newspapers) rose very rapidly in 1918, 1919, and 1920, and has remained relatively stable since that time, which accounts for the cost in 1934-36 being distinctly above the level of costs in 1917-19.

To secure a living which cost \$1,200 in larger cities of the country at the time of the 1917-19 survey, it would have been necessary on the average in 1934-36 to spend only \$1,140.

A comparison of the actual expenditures of families with money incomes ranging from \$1,200 to \$1,500 in the two periods shows the differences in the distribution of the total amount spent currently for goods and services. Expenditures in 1934-36 were somewhat lower for food, furniture, and furnishings, and considerably lower for clothing; expenditures for housing, fuel and light, and miscellaneous items were considerably higher.

Current expenditures of families of wage earners and clerical workers with incomes from \$1,200 to \$1,500 in 35 large cities in 1917-19 and in 1934-36

[Families including husband and wife and at least one child]

Item	Average expenditures in—		Cost at 1934-36 prices of goods purchased in 1917-19	Average expenditures in—		Cost at 1934-36 prices of goods purchased in 1917-19
	1917-19	1934-36		1917-19	1934-36	
Food.....	\$521	\$508	\$389	Percent 41.2	Percent 36.4	Percent 33.2
Clothing.....	205	139	169	16.3	10.0	14.4
Rent.....	190	{244}	{187}	{15.0}	{17.5}	{16.0}
Fuel and light.....	259	{108}	352	{20.5}	{25.3}	{23.5}
Furniture and furnishings.....	60	54	57	4.8	3.9	4.9
Miscellaneous items.....	216	339	281	17.2	24.4	24.0
Total.....	1,261	1,392	1,171	100.0	100.0	100.0

The greatest difference between average expenditures at this income level occurred in the case of miscellaneous items. Expenditures for the miscellaneous group, which includes automobiles, radio, and telephone, were almost three-fifths greater in 1934-36 than in 1917-19.

In analyzing these figures, it is important to return to the realignment of prices which occurred in the period between the two surveys. In order to eliminate the effect of price differences as such from the comparison of expenditure patterns, the Bureau of Labor Statistics indexes of the cost of food, clothing, rent, fuel and light, and miscellaneous items have been applied to the average expenditures of families in the \$1,200-\$1,500 income bracket in 1917-19. The resulting figures (column 3 above) represent an estimate of what the equivalent of the goods actually purchased in 1917-19 would have cost if they had been purchased in 1934-36.

A comparison of these figures with the expenditure patterns actually found in 1934-36 shows that the families studied in the latter period were spending considerably more for food than would have been required to buy the foods purchased in 1917-19. Part of this increase was due to the increase in eating out in the period between the two surveys, and part to the fact that these moderate-income families had taken advantage of lower food prices to satisfy food needs which had not been met in the period at the end of the World War. The data available on the kinds of food purchased indicate

that the consumption of employed workers at the present time is much nearer the diets recommended by nutrition specialists than were the diets of families at approximately the same general economic level in 1917-19.

Total clothing expenditures in 1917-19 were, on the other hand, lower on the average than would have been expected on the basis of expenditures in 1917-19. Clothing prices, as mentioned above, were lower in 1934-36 than in the period at the end of the World War, but clothing expenditures were lower than would have been required to buy the equivalent of the clothing purchased earlier. Part of the difference is doubtless accounted for by the increase in dwellings with central heat. Riding to work in automobiles instead of walking long distances for trolleys has probably reduced the need for heavy winter clothing. In addition, the trend of styles in women's clothing has been in the direction of less voluminous and more tailored garments.

A comparison of actual housing expenditures in 1934-36 with those estimated as required to provide the type of housing secured by the families studied at the end of the World War shows a higher average expenditure in 1934-36, when the comparison is made in terms of housing as such, or in terms of housing expense combined with expense for fuel and light. Dwellings of a better grade than those occupied in 1917-19 by workers at this income level were available in 1934-36—dwellings with electric lights and modern plumbing. These urban workers were not content with homes which were the equivalent of those with which city families at this income level had perforce been satisfied in the World War period. They found, however, that they could not obtain the housing they wanted by paying the equivalent of the amounts paid in 1917-19, and the lower cost of food and clothing gave them the margin they needed to pay more for housing, as well as to increase their expenditures for items classified in the miscellaneous category.

Families in this middle-income class in the 35 cities included in both investigations spent \$216 for miscellaneous commodities and services in 1917-19. In 1934-36 the equivalent of these commodities and services would have cost \$281. Actually, however, families at this income level in these same cities in 1934-36 spent \$339 for goods of this sort. The most marked change was in expenditures for travel. In 1917-19, among families of the type covered by the Bureau's study at that time—i. e., families with husband, wife, and at least one child—expenditures for travel of all kinds averaged \$35 a year or 3 percent of total current expenditure in the \$1,200-\$1,500 income class. The comparable figures for 1934-36 are \$99 and 7 percent.

The travel figures for both periods include the expense of automobile purchase, maintenance, and operation, an item which has become of considerable importance even to moderate-income urban families who are not actually dependent on motor transportation. Nowadays when a family has had a successful year, it is more apt to think of an automobile as a symbol of success than to turn to new clothes, or new furniture for the parlor.

Expenditures for personal care have also increased markedly in the interval between these studies. An expenditure of not quite \$13 per family (1 percent of all current expenditures) in this income class

in 1917-19 has become \$27, or 2 percent of all current expenditure, in 1934-36. Obviously the barber and the hairdresser are receiving considerably more attention than in 1917-19.

These differences in the distribution of expenditures by wage-earner and clerical families in the \$1,200-\$1,500 income class are representative of differences up and down the income scale covered by these two investigations; that is, from \$500 to \$2,500 and over. Without exception the averages by income class show that in 1934-36 families were spending a higher proportion of total expenditures for food and a lower proportion for clothing than would have been necessary to buy the equivalent of the 1917-19 purchases. In all except the lowest income class they were spending a higher proportion for housing than the equivalent of World War housing would have required. In this lowest bracket again, there was a deviation from the rule as regards furniture and furnishings. In every other income class the proportion spent in 1934-36 was slightly less than would have been required to purchase furniture and furnishings of types and in the amounts bought in 1917-19. In all but one income class the expenditure for miscellaneous items was proportionately larger in 1934-36.

One of the most striking differences between these two sets of figures is in the matter of savings and deficits in each period. In the group covered in 1917-19 in these 35 cities, only the families at the lowest income level showed a deficit and that was a small one—not quite \$11. Above the \$900 level, each group, on the average, showed net savings (treating payments on insurance premiums as savings).

Among the comparable families covered in 1934-36, in a period when the average cost of living was 5 percent lower, average deficits appeared until the \$1,800 level was reached. The group with incomes from \$1,200 to \$1,500 spent, for example, \$131 more for commodities and services than the similar group covered at the end of the World War. Their average incomes were, on the other hand, only \$20 higher. The balance of the additional current expenditure was possible, partly because no net saving was made by families in this bracket in 1934-36, and partly because these families made use of funds other than current income. Part of these nonincome funds were withdrawn from savings accounts, part were borrowed on installment credit, part represented a surrender of insurance policies, while the balance came from a variety of scattered sources. In contrast with the situation in 1917-19, when the average family in the wage-earner and clerical group in the \$1,200-\$1,500 income class saved \$80 over the year, in 1934-36 the comparable families reported a net decrease in assets and/or increase in liabilities of \$30.

In considering these differences, it is important to remember the difference in the national situation at the time the two investigations were made. Much of the data obtained in the 1917-19 investigation applies to years ending between June 30 and November 1, 1918, a time when Government loans were being floated in small denominations, and subscriptions to them by moderate-income families were made at considerable sacrifice. Amounts paid on such subscriptions by families covered in the Bureau of Labor Statistics study would, of course, appear as savings in calculating changes in assets and liabilities.

The investigation in 1934-36 was made just after a period of extensive unemployment and reduction in earnings, in which most low- and moderate-income families, even if they had not suffered acutely from unemployment themselves, had postponed, insofar as possible, all expenditures which were not immediately necessary. By 1934 and more particularly by 1935, conditions were somewhat improved, particularly for the families having relatively steady employment, a requirement for inclusion in the study. It was natural, therefore, to find them buying with a certain amount of optimism to make up for the enforced economies of the past, drawing on savings where possible, and where savings were not available, on credit.

There seems, however, to have been another reason for the differences in the expenditures of families with the same incomes. There is much that indicates that families of wage earners and clerical workers actually have higher standards of living than similar workers had at the end of the war period. Their diets more nearly approach the recommendation of specialists in human nutrition; they have homes with better lighting; many of them are able to travel more because they have automobiles. The change in the ideas of these workers as to how they ought to live has resulted in fundamental changes in their expenditure patterns. Insofar as the analyses already made make it possible to compare the goods and services purchased by comparable families, it would appear that the change has resulted in a level of living for employed workers³ which may actually be called higher than that found in 1917-19.



Nutritional Adequacy of Diets of Wage Earners and Clerical Workers

The 1934-36 Study of Money Disbursements of Wage Earners and Clerical Workers made by the Bureau of Labor Statistics indicated that 75 percent of the white families and 32 percent of the Negro families spent enough for food to buy the "minimum-cost adequate diet" of the United States Bureau of Home Economics. There was a striking progression in these proportions from the families with annual unit expenditures⁴ of less than \$400 for all items of family living to those spending \$600 or more.

In making these estimates, the cost of the "minimum-cost adequate diet" was calculated on the basis of average prices in the period to which the expenditure data apply in each city surveyed. It is, of course, possible to shop with care and buy at lower prices than these. A careful selection of in-season fruits and vegetables and fish will

³ It is important in using these figures to remember that this report does not attempt to estimate the change in the consumption of the average family in the wage-earner and clerical groups in our large cities from the middle of 1919 to the middle of 1936. The Bureau of Labor Statistics studies of the expenditures of wage earners and clerical workers at both periods were made for the purpose of providing weights for cost-of-living indexes applying to changes in the costs of goods purchased by employed workers. On that account, many families in the lowest income brackets were eliminated both from the study made at the end of the war period, and from the 1934-36 investigation. It is impossible to make any estimate of the income distribution of all the urban families who regarded themselves as

⁴ "Annual unit expenditure" is the term used to denote total expenditure per family member. In counting the number of family members, a moderately active adult male is counted as one unit. Each other member is counted in proportion, with due regard to differences in customary consumption by age, sex, and activity. For fuller explanation see *Monthly Labor Review* for January 1940 or Bureau of Labor Statistics Bulletin No. 638, ch. 3.

lower the cost, but on the other hand, to secure a nutritionally adequate diet at the calculated cost requires thoughtful planning and food-consumption habits which follow nutritional needs very closely. These figures furnish, therefore, an estimate of the proportion of families spending enough to secure nutritionally adequate food; they do not furnish information as to the proportion of families actually attaining adequate diets. The following statement shows the percentage of families spending enough for food to buy the "minimum-cost adequate diet," of the Bureau of Home Economics, by unit expenditure for all items.

Annual unit expenditure for all items of family living:	Percent of—	
	White families	Negro families
All families.....	75	32
Less than \$400.....	40	11
\$400 and under \$600.....	88	73
\$600 and over.....	98	--

¹ Families with annual unit expenditure of \$400 and over.

An analysis was made by Hazel Stiebeling of the U. S. Bureau of Home Economics of the nutritional content of the average quantities of foods shown in Bulletin No. 638 as actually consumed by 14,469 families of employed wage earners and clerical workers. The results of this analysis are shown in table 1. They indicate that, on the average, the foods of these wage earners and clerical workers were adequate in energy value and in proteins. They were deficient, however, at the lowest economic level, in phosphorus, iron, and the vitamins. Only for white families at the highest economic level did the average diet provide calcium sufficient to meet requirements of a good diet.

TABLE 1.—Average nutritive value of diets per nutrition unit per day, 14,469 white and Negro families of employed wage earners and clerical workers in cities, 1934-36¹

Total annual unit expenditure for all items	Energy value	Protein	Calcium	Phosphorus	Iron	Vitamins			
						A	B	C	G
	<i>Calories</i>	<i>Grams</i>	<i>Grams</i>	<i>Grams</i>	<i>Milli-grams</i>	<i>International units</i>	<i>Milli-grams</i>	<i>Milli-grams</i>	<i>Milli-grams</i>
White families:									
Less than \$400.....	2,840	70	0.47	1.17	12.4	4,900	1.6	65	1.6
\$400-\$600.....	3,260	84	.59	1.36	15.2	6,900	1.9	97	2.0
\$600 or over.....	3,580	96	.70	1.54	17.1	8,600	2.1	123	2.4
Negro families:									
Less than \$400.....	2,990	67	.32	1.10	14.0	4,400	1.7	54	1.3
\$400-\$600.....	3,860	93	.53	1.48	17.5	6,800	2.2	88	2.0
\$600 or over.....	3,780	96	.57	1.48	17.3	8,200	2.2	109	2.1

¹ Analysis furnished by the Bureau of Home Economics of the Department of Agriculture. The figure are in terms of the nutritional needs of a moderately active man of 154 pounds.

A detailed analysis of food-consumption records kept for 1 week in several seasons by approximately 4,000 of the families cooperating in the study was made in 1939 by Stiebeling and Phipard.⁵ The diets

⁵ U. S. Department of Agriculture. Circular No. 507: Diets of Families of Employed Wage Earners and Clerical Workers in Cities, by Hazel K. Stiebeling and Esther F. Phipard. Washington, 1939. Since the publication of this report, the National Research Council's committee on food and nutrition has recommended daily allowances for specific nutrients for various age, sex, and activity groups that differ somewhat from those used in this study as a basis for grading diets. Hence, on the new basis the proportion of diets classed as good, fair, or poor might be somewhat different from those here reported.

as shown by these records were classified separately for each individual family as good or fair if the uncooked food materials consumed furnished per nutrition-requirement unit at least the following quantities:

Specifications for diets rated good and fair; daily allowances of certain important nutrients per day for a 154-pound moderately active man

	<i>Good diets</i>	<i>Fair diets</i>
Protein-----grams--	67	45
Calcium-----do-----	0.68	0.45
Phosphorus-----do-----	1.32	0.88
Iron-----milligrams--	15	10
Vitamin A-----International units--	6,000	3,000
Vitamin B ₁ , thiamin-----milligrams--	1.5	0.75
Vitamin C, ascorbic acid-----do-----	75	37
Vitamin G, riboflavin-----do-----	1.8	0.9

The analysis shows from 11 to 21 percent of the white families in the several regions, and 11 percent of the Negro families in the South, consuming food which, as uncooked food material, provided generous quantities of protein, calcium, phosphorus, iron, and vitamins A, B, ascorbic acid, and riboflavin. These included a wide margin of safety, probably about 50 percent above average minimum requirements for protein and the minerals. These generous margins provide not only for some waste in use but also for the higher than average requirements of some individuals and the fact that more than the minimum quantities of certain nutrients needed for growth or equilibrium appears to be advantageous.

The percentage of the families in this sample whose diets were classified as fair and poor are shown in table 2. Stiebeling and Phipard found that "The chances for better diets increased with rising per capita expenditures for foods. This was due chiefly to a more liberal use of milk, meat, eggs, leafy green vegetables, and fruits, when more money was available. But the quality of the food supply selected by families was by no means only a matter of level of food expenditure. At every expenditure level above a certain minimum, some families succeeded in obtaining good diets but others procured food only fair or poor, from the standpoint of nutritive value. For example, with an expenditure of \$2.50 a person a week for food, 32 percent of the families in East South Central cities bought good diets, while another 37 percent obtained diets that were classed as poor" (that is, in need of improvement, since they were below, in one or more respects, what is now considered average minimum requirement).

TABLE 2.—*Proportion of all families studied obtaining diets of different grade, by color of family and region*

Color of family and region	Proportion obtaining diets graded—		
	Good	Fair	Poor
<i>White families:</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
North Atlantic-----	11	32	57
East North Central-----	12	28	60
East South Central-----	21	33	46
Pacific-----	14	46	40
<i>Negro families: South-----</i>	<i>11</i>	<i>25</i>	<i>64</i>

In summarizing their findings, Stiebeling and Phipard estimate that there is little likelihood of a deficiency in protein in the diets of many employed workers' families. Most of the diets furnished an adequate amount of phosphorus. Less than half, however, purchased food supplying as much as 0.70 gram or more of calcium per unit per day (a safe allowance), while about a sixth had diets furnishing less than the average minimum requirement of 0.45 gram of calcium per unit per day. About half the diets supplied 15 milligrams of iron per unit per day (the amount needed for a "good diet"), and all but about 5 percent, a "fair" allowance, 10 milligrams.

About a third of the families obtained diets high enough in vitamin A to insure good visual adaptation in semidarkness, and about a fifth obtained a liberal allowance. About half the families purchased foods which furnished less vitamin B₁ than the standard of the good diet for this nutrient. An abundance of vitamin B₁ promotes good functioning of the digestive tract. Acute deficiencies result in a disease of the nervous system called beriberi.

Somewhat less than half of the families secured the specifications of the good diet as regards vitamin C (ascorbic acid), a substance found in abundance in citrus fruits and tomatoes and in certain green and leafy vegetables and fruits, but almost 90 percent had a "fair" allowance. Diets without sufficient provision of this nutrient result in increased susceptibility to infection, and in restlessness and irritability in children. An acute deficiency in vitamin C may produce scurvy, but other symptoms are more common in this country. Riboflavin (essential in the production of an enzyme involved in cell respiration and the energy metabolism of the body) was fairly well supplied by these diets. The pellagra-preventive factor was apparently amply supplied except in the Southeast, where the deficiency among the low-income groups is serious.

Deficiencies in the consumption of calcium and vitamins A, B, and C are readily understood when the division of actual expenditure is compared with recommendations for adequate nutrition at expenditure levels just above and just below the average prevailing in this group. Milk is one of the most important sources of calcium and of vitamins A and B. The relatively low proportion of the average allotted to milk and milk products is responsible in large part for these deficiencies. The deficiency which appears in the analysis as regards vitamin C is probably accounted for by the fact that actual purchases of green and leafy vegetables were considerably below those in the recommended diets.

The relationship between food consumption and health is now so well established that it must be a matter of general concern that so large a proportion of this relatively favored group was not securing the foods needed for a nutritionally satisfactory diet. There is abundant clinical evidence that the vitamins and the minerals listed above are needed for physical well-being. Part of the consumption deficiencies just shown could easily be remedied by more widespread knowledge of nutritional needs, but a large part is due to the inadequacy of incomes to meet total family needs. Forty-four percent of the children in the families of the employed workers covered by

this investigation were members of families whose expenditures did not come up to the modest standard of the WPA "maintenance budget."^a



Effect of Stamp Plan on Living Levels¹

Food-Stamp Plan

In April 1939, the Federal Surplus Commodities Corporation (now functioning as the Surplus Marketing Administration of the Department of Agriculture) announced plans for distributing surplus agricultural commodities to needy persons through normal wholesale and retail channels of trade. The food-stamp program opened on May 16, 1939, in Rochester, N. Y. From this experimental beginning in one city the program has gradually expanded to other areas. The success of the food-stamp plan suggested the possibility of its application to other commodities and led to the announcement in February 1940 of the cotton-stamp plan. The stamp plan offers a way to aid the farmer toward a fairer share of the national income through an expansion of the domestic market. At the same time it provides an attack on the problem of underconsumption by low-income families.

Method of Operation

The method of operation of the food-stamp program is simple. Local welfare agencies in areas where the plan is used certify families eligible to purchase stamps. Such families may purchase books of orange stamps, up to a value equivalent to their customary food purchases. These stamps may be used to purchase any food items. In addition, each book includes 50 cents' worth of free blue stamps for each \$1 of orange stamps purchased. The blue stamps may be used to purchase only those foods which have been declared by the Secretary of Agriculture to be in surplus. Local welfare agencies are responsible for selling the stamp books to the needy families and for the establishment of a revolving fund for the redemption of the orange stamps which represent the family's customary food purchases. The stamps, both orange and blue, are treated as cash and may be spent at any retail store participating in the plan. Retailers paste the stamps on \$10 cards and redeem them through their wholesalers, their banks, or through the Surplus Marketing Administration. The stamp books contain orange stamps to the value of \$2, \$3, \$4, \$6, \$8, and \$10, and blue stamps in the proportion of one blue stamp to two orange stamps. Food purchased with blue stamps is not subject to local retail taxes.

Persons eligible under the food-stamp plan include persons on work or direct relief; needy persons certified as eligible for either type of relief but not actually receiving aid; and persons receiving social-security benefits, who are in need of additional aid. In cases where eligible persons are unable to purchase orange stamps, blue

^a See section on Post War Standard Budgets (p. 123).

¹ Summary of article by Olive T. Kephart in November 1940 Monthly Labor Review, with addition of later data.

stamps may be issued separately. Such figures as are available indicate that the average family receiving public assistance spends for food approximately \$1 per person per week. Under the food-stamp plan a family of two persons with a customary expenditure of \$2 per week for food will, by purchase of \$2 in orange stamps, receive an additional \$1 in stamps which can be spent for surplus commodities. This increase brings the family's weekly expenditure for food to \$1.50 per person, and while raising the level of expenditure toward a minimum standard of adequacy, increases the value of food consumed only to 7½ cents per person per meal. The plan functions through the normal channels of trade, the wholesaler and retailer making their purchases in the usual way.

Contracts between the Government and the local officials in communities requesting the stamp plan provide that local expenditures for relief shall not be reduced as a result of its adoption.

Commodities Distributed

The surplus commodities purchased with the blue stamps have changed from time to time in accordance with economic conditions and seasonal factors. Continuous studies are being conducted which are yielding valuable information on the selection of foods by low-income families with increases in income and on the effect of the program on the agricultural situation. The accompanying table shows the estimated quantity of commodities distributed through the stamp program from July 1940 through April 1941.

Extent and Cost of Operation

As of May 1, 1941, the food-stamp plan was bringing the benefits of increased purchasing power to 3,827,868 persons and was in operation in 307 areas. During the period from July 1, 1940, to May 1, 1941, total Federal expenditures for the program were \$62,970,000. Expenditures in April were \$9,550,000. Funds for the purpose are derived from the 30 percent of customs revenues assigned by act of Congress to the Agricultural Adjustment Administration for the encouragement of the export of agricultural products and of domestic consumption of such products, as well as from special appropriations.

*Quantities of surplus foods distributed through the food-stamp distribution program, July 1940 through April 1941*¹

Commodity	Quantity ²	Commodity	Quantity ²
Butter.....pounds	25,204,000	Other vegetables.....pounds	87,168,000
Eggs.....dozen	34,348,000	Fresh fruits.....do	77,003,000
Flour.....pounds	227,699,000	Dried fruits.....do	20,097,000
Other cereals.....do	76,054,000	Citrus fruits.....boxes	1,633,000
Dry beans.....do	32,606,000	Pork lard.....pounds	43,863,000
White potatoes.....bushels	3,475,000	Pork.....do	86,864,000

¹ Data supplied by the Economic Analysis Section, Surplus Marketing Administration.

² Farm equivalent; retail purchases adjusted to include estimated waste occurring in the process of distribution.

Cotton-Stamp Plan

In February 1940 Secretary Wallace announced the cotton-stamp plan, designed to provide for the movement of surplus cotton goods through the normal channels of trade. The plan opens a new market for cotton goods by increasing the purchasing power of low-income families, and directing it toward purchases of cotton goods.

Certification of eligible persons is by State and local welfare organizations. All persons receiving or eligible for public assistance and persons receiving aid through the social-security program are eligible to participate in the cotton-stamp plan.

Eligible persons may purchase cotton stamps in an amount equal approximately to their normal cotton expenditures. For each dollar of expenditure they receive another dollar's worth in free surplus stamps. The purchased stamps are green; the free stamps are brown. Both stamps are issued in denominations of 25 cents each. Some families who are not able to purchase the green stamps are certified by local welfare agencies as eligible to receive the free brown surplus stamps without having to buy the green stamps. The stamps are used to purchase new cotton goods for personal or household use in retail dry-goods stores. They are pasted on cards by the merchants and redeemed in the same manner as the food stamps.

As of April 30, 1941, the cost of the plan in the fiscal year to the Federal Government was \$1,740,000. At this time it was operating in 23 areas and serving 259,631 persons.

The Surplus Marketing Administration recently announced a supplementary cotton-stamp program under which cotton farmers may receive cotton stamps up to a value of \$25 a year per family in return for reducing their cotton plantings and raising more garden produce for family use.

Extent of Available Market

Evidence as to the extent of the market available under the stamp plans and the desirability of that method of increasing domestic consumption, was furnished by the Study of Consumer Purchases. According to that survey, 4 million families, or 14 percent of all American families, had an average income of only \$312. Another 8 million families, 27.5 percent, had an average income of \$758. Seven million more had average incomes of \$1,224, or about \$100 a month. The families in the group with incomes of \$312 spent only a little more than \$1.00 per person per week for food; those with incomes of \$758 spent on the average about \$1.62 per person per week. Families with approximately \$100 per month spent about \$2.18 per person per week for food. As income increased, food expenditures increased, at first rapidly, then more slowly after passing the \$100 income level.² An analysis made by the Bureau of Home Economics of the Department of Agriculture of the quantities of different kinds of foods consumed by the families, offered convinc-

² See reports of the National Resources Committee: *Consumer Incomes in the United States, and Consumer Expenditures in the United States.*

ing evidence that a large proportion of American families were not receiving the foods they needed in order to be well nourished.^a

On the basis of the Study of Consumer Purchases, referred to above, it has been estimated that a family of four persons with an income of less than \$500 spends approximately \$17.90 annually for cotton clothing and household goods, an amount which is obviously inadequate. Families of the same size with average incomes of \$1,000 to \$1,500 spend more than twice this amount, \$36.73, and families with annual incomes of \$5,000 or over spend \$111.96 for cotton goods.^b



Studies of Standards of Living

Standard Budgets

Any attempt to compare the actual expenditures of the families of wage earners and clerical workers studied by the Bureau of Labor Statistics in 1934-36¹ with the cost of the "American standard of living" presupposes that there is general agreement about the goods and services which go to make up that standard. As a matter of fact, there are almost as many opinions about the details which must be included in the "American standard" as there are American homes, and the general point of view about the essential details has changed considerably with changes in production techniques of the last quarter of a century. There is, however, a general agreement about certain basic goods and services essential to the health and welfare of the American family.

During the period of the World War and the economic readjustments which followed it, figures on the cost of maintaining an adequate family living were compiled by several different agencies of the Federal Government. In connection with the wage adjustments of the war period, W. F. Ogburn, then in charge of the cost-of-living section of the National War Labor Board, prepared and priced two family budgets as of June 1918—a "minimum of subsistence" budget for a family of five costing \$1,386, and a "minimum comfort" budget costing \$1,760.²

In 1919 and 1920 the United States Bureau of Labor Statistics prepared two quantity budgets. The first was intended to represent the needs of Government employees in Washington³ while the second had a wider application. It was the "minimum quantity budget necessary to maintain a worker's family of five in health and de-

^aThe Bureau of Home Economics, Department of Agriculture, will present the results of this analysis in two reports on family food consumption and dietary levels, now in press, for the Study of Consumer Purchases.

^bThese figures are from estimates prepared by the Marketing Section, U. S. Department of Agriculture, on data obtained in the Study of Consumer Purchases conducted by the Bureau of Labor Statistics and the Bureau of Home Economics, in cooperation with the Works Progress Administration, National Resources Committee, and Central Statistical Board.

¹See Bureau of Labor Statistics Bulletin No. 638, ch. 3, and article in Monthly Labor Review for January 1940.

²Bureau of Applied Economics, Inc. Bulletin No. 7: Standards of Living; A compilation of budgetary studies. Washington, 1920.

³U. S. Bureau of Labor Statistics. Tentative quantity and cost budget necessary to maintain a family of five in Washington, D. C., at a level of health and decency. Washington, 1920. This budget was based on a study of the expenditures of Government employees in Washington. The primary aim of the study was to furnish information for the use of the Joint Commission of Congress on Reclassification of Salaries. The cost of this budget in August 1919 was \$2,016 in Washington.

gency"⁴ and was prepared in cooperation with a committee of the National Conference of Social Work and the Office of Home Economics in the Department of Agriculture.

Among the concrete formulations of standards of living at specified levels which are most used at the present time are the "maintenance budget" of the Works Progress Administration, and the budgets for families in different economic groups prepared by the Heller Committee for Social Research.

The Works Progress Administration, in March 1935, found that in 59 cities of the United States the average cost of a budget for a 4-person family of a manual worker at a "maintenance" level was \$1,261. When the allowance for insurance premiums (which in the recent Bureau of Labor Statistics investigation were treated as savings) is deducted, the cost for items of current family living of the WPA budget at that date becomes \$1,215. The maintenance level is described as above the "minimum of subsistence level" or "emergency level" of relief budgets, but below the standard of the skilled worker. It is stated that it does not "approach the content of what may be considered a satisfactory American standard of living."⁵

Still another attempt to obtain quantity and cost statements of given standards of living is represented by the work of the Heller Committee for Research in Social Economics at the University of California. The average cost of its budget for a 5-person family of a skilled wage earner, as priced by the Heller Committee in San Francisco at various intervals from November 1933 to October 1936, was \$1,953. That budget was designed to meet accepted requirements of health and decency and to "accord with the spending habits of the

⁴ U. S. Bureau of Labor Statistics. Minimum quantity budget necessary to maintain a worker's family of five at a level of health and decency. Monthly Labor Review, June 1920, pp. 1-18.

The budget constituted the Bureau's "best estimates at that time of what should be included in the family budget of the workingman." It was based in part on estimated standard requirements and in part on the expenditures of wage-earning families in the United States, as shown in the investigation of 1917-19.

The food budget was obtained by averaging the actual amounts of foods used by 280 families selected from the 1917-19 survey. These families were selected because they averaged 3.35 equivalent adult males and purchased food amounting to 3,500 calories per man per day. Slight changes were made to make the budget acceptable to trained dietitians as a standard budget intended to maintain the family in health.

The clothing budget "intended to provide a fair degree of that mental satisfaction which follows being reasonably well dressed," consistent with the minimum requirement for health and social decency. It was based on the clothing budgets of 850 families having three children under 15 years of age, as reported in the 1917-19 survey, modified to take account of suggestions from clothing experts and of the results of a special study of such factors as replacement.

The standard of housing included in the budget required one room per person and a complete bathroom with toilet.

The budget was never priced by the Bureau of Labor Statistics, but its cost was calculated for 10 large cities in 1922, by the Labor Bureau, Inc., a private research agency. According to the figures of that agency, the average for those cities was \$2,282. If this cost of the budget were estimated in the dollar values of the period of the Bureau of Labor Statistics' most recent study of the family expenditures of wage earners and clerical workers, it would amount to \$1,898, but that budget is not applicable to present-day conditions. The kinds of goods and services customarily consumed have changed greatly in the past two decades. The fact that no automobile, no radio, no silk stockings, and no beauty-parlor services were included in the budget suggests the changes in American consumption habits which have taken place since it was prepared.

⁵ Works Progress Administration, Research Monograph XII: Intercity Differences in Cost of Living in March 1935, 59 Cities, p. xiv.

The "maintenance budget" was designed to provide for a family consisting of a moderately active man, a moderately active woman, a boy aged 13, and a girl aged 8. The man is an unskilled manual worker who wears overalls at work. The allowance for food included in the budget is based on the adequate diet at minimum cost of the Bureau of Home Economics, using a restricted list of foods. The housing allowed a four- or five-room house or apartment in a fair state of repair, with an indoor bath and toilet for the family's exclusive use. The budget includes maintenance for an inexpensive radio, a daily newspaper, and attendance at the movies once a week. It does not provide an automobile. No provision is made for saving other than life-insurance premiums, which amount to \$46 a year.

economic group.”⁶ The equivalent of this San Francisco cost for an average of 59 cities throughout the United States for March 1935 has been estimated to be \$1,760.⁷ When the cost of life insurance is deducted from this figure, it appears that the average current expenditure provided by the Heller budget (as distinguished from savings) may be estimated at \$1,661, for the large cities of the country in this 3-year period.

No official estimate at a higher level than the WPA maintenance budget has been made recently. Many economists use approximately \$2,000 as the amount needed at the present time to provide an urban family of four persons with the goods and services included in what is widely accepted as the “American standard of living.”⁸

The significant thing to be noted, when attempts are made to compare the cost of each of these standards with actual family expenditures, is that family size as well as total expenditure must be taken into account. Each of these quantity-cost budgets, if equitably shared by the indicated numbers of persons, provides for each of those persons the standard set by the budget. However, should the same quantities of goods and services or the same total expenditures be shared by a larger number of persons, it is obvious that each would fall somewhat below the standard set by the budget. Conversely, should the same total expenditures be divided among a smaller number of persons than the budget estimate, each person would in fact enjoy a plane of living higher than that indicated by the standard set in the budget.

Family size as well as income is of crucial importance in determining the economic plane which the family is actually able to achieve. Small family size and high incomes make for a higher degree of comfort, while large families and limited incomes mean a more limited provision of goods and services for each family member, or a lower economic plane. It is also clear that two families with the same incomes, but one composed of husband, wife, and two children, and

⁶ Heller Committee for Research in Social Economics, Quantity and Cost Budget, Berkeley, University of California, 1937.

The 1936 Heller budget for the family of a wage earner provides for five persons—a man, his wife, a boy aged 11, a girl aged 5, and a boy aged 2. The food budget included in this standard was adapted from *Adequate Food at Low Cost*, by Ruth Okey and Emily H. Huntington, with adjustments to take into account customary food consumption as well as nutritional adequacy. The home is a five-room house, apartment, or flat in a “working class neighborhood.” The budget allows for the maintenance of a radio and a second-hand automobile, and life-insurance-policy premiums of \$101.75.

⁷ To the San Francisco cost for each major category, as food, clothing, etc., was applied an adjustment factor which was the ratio of costs in San Francisco to costs in 59 cities combined, as determined by the Works Progress Administration as of March 15, 1935. Works Progress Administration, Research Monograph XII: *Intercity Differences in Cost of Living in March 1935*, 59 cities, p. 116.

⁸ Perhaps the most widely known of the private estimates is that of Mordecai Ezekiel, who set an income of \$2,500 as necessary at 1929 price levels to furnish an average city family of four persons with the “American standard.” When this sum is converted to its equivalent dollar value in 1934-36 by the application of the Bureau’s cost-of-living indexes, the corresponding money income in 1934-36 is found to be \$2,015. When the savings included in the Ezekiel budget are deducted, the cost of goods and the services it provides (adjusted to the 1934-36 dollar) would be valued at \$1,873 for a family of four.

The author defines the standard to which his dollar estimate applies as follows:
 “* * * decent shelter, decent clothing, and adequate food for growth and health. Under American conditions, a family can hardly be said to be sharing in abundant living unless it can also enjoy the comforts of civilization which many Americans have come to regard as necessities. Those include running water and modern plumbing, adequate heat, the telephone and electric light, newspapers, magazines, and books, a minimum of health care from doctors and dentists, an automobile, and some opportunity for travel, recreation, amusement, and higher education. For the average city family of four persons, an annual income of \$2,500 is probably the minimum on which such comfortable living can be attained (using the 1929 level of prices). In fact, such an income would probably not be high enough for most families to enjoy all the comforts listed. Rather than set our standards too high, though, we may regard such an income as being the minimum needed to enable a family to live a moderately full life under American conditions.” Ezekiel, Mordecai, \$2,500 a year; *From Scarcity to Abundance*. Harcourt, Brace & Co., New York, 1936, pp. 3-5.

the other composed of husband, wife, and six children, live on widely separated planes of living.

In an effort to analyze the expenditures of the families covered in the Bureau's study of money disbursements of wage earners and clerical workers^a in relation to their planes of living, families were classified according to "unit expenditure," that is total family expenditure per equivalent adult male. It was found that 21 percent of the families included in that investigation even though they were relatively favorably situated, had unit expenditures less than \$331, the unit cost of the WPA budget at the date of the survey. Furthermore, 34 percent of the families studied had unit expenditures which would place them below the level of the Heller Committee's "wage earner" budget and 56 percent spent less than the cost of the "\$2,000 standard for a family of four."

In view of the larger size of the families at the lower economic levels, 30 percent of the total number of persons covered in the investigation were found to be living below the "maintenance" standard; 44 percent below the Heller standard for wage earners; and 67 percent below the "\$2,000 standard." Considering the fact that the groups at the higher economic levels were largely mature families with relatively few children under 16, the distribution of the children included in the survey is even more striking. The proportion of children found below the WPA "maintenance" standard was 44 percent; below the standard of the Heller wage-earner budget, 61 percent; and below the "\$2,000 standard," 82 percent.



Consumer Incomes in the United States in 1935-36

This article summarizes a few of the significant findings of a report on the distribution of income published by the National Resources Committee in 1938.¹ The estimates are approximations, but are derived from data much more adequate than any previously available. The volume was prepared under the direction of Dr. Hildegard Kneeland and was made possible by the large body of data on incomes and expenditures collected by the Bureau of Labor Statistics in urban communities and by the Bureau of Home Economics in rural areas. From time to time since 1888 the office of the Commissioner of Labor Statistics has made surveys of family incomes and expenditures. These were required for use in constructing the Bureau of Labor Statistics cost-of-living index. Important changes, especially in consumption habits, led the Bureau to undertake a new survey of incomes and expenditures in 1934. It was not until 1936, however, that a survey of incomes and expenditures became possible on a scale designed for the purpose of making Nationwide estimates of the distribution of income.² The larger coverage was made possible by a Works Progress Administration project, and the study was a cooperative undertaking on the part of the National

^a See Bureau of Labor Statistics Bull. No. 638: Money Disbursements of Wage Earners and Clerical Workers, 1934-36: Summary volume.

¹ United States, National Resources Committee, Consumer Incomes in the United States: Their Distribution in 1935-36. Washington, 1938.

² The earlier surveys, although much more restricted in their coverage and purpose, were used extensively in connection with estimates of the distribution of income, notably in the volume on America's Capacity to Consume, by M. Leven, H. G. Moulton, and C. Warburton of the Brookings Institution.

Resources Committee, the Central Statistical Board, the Bureau of Labor Statistics, the Bureau of Home Economics, and the Works Progress Administration. Another phase of the study deals with the spending of the incomes analyzed in the present report. (See next article.)

The income report found that there were 39,458,300 "consumer units" in 1935-36,³ including 29,400,300 families of two or more persons and 10,058,000 single individuals. The estimated aggregate income of families was \$47,679,238,000. The family average was \$1,622 and the per capita average of the members of families was \$411. The aggregate income of single individuals was \$11,579,390,000, with an average of \$1,151. (See table 1.) These averages are means (the aggregate income of each type of consumer unit divided by the number of units). The median income of families and single individuals was \$1,070, indicating that half of the total number received incomes below this amount. The median income is much more typical or characteristic, because the mean is more affected by the exceptionally large incomes of a very few. The median income of persons, as distinguished from consumer units, is not known.

TABLE 1.—Distribution of population, by type of consumer unit, and average and aggregate incomes of each type, 1935-36

Type of consumer unit	Number of consumer units	Persons		Average income—		Aggregate income		
		Number	Per cent	Per consumer unit		Per person (mean) ¹	Amount (in thousands)	Per cent
				Median ¹	Mean ¹			
All consumer units.....	(?)	128,024,000	100.0	(?)	(?)	\$469	\$59,982,928	100.0
Families and single individuals....	39,458,300	126,024,000	98.4	\$1,070	\$1,502	470	59,258,628	98.8
Families of 2 or more persons....	29,400,300	115,966,000	90.6	1,160	1,622	411	47,679,238	79.5
Single individuals.....	10,058,000	10,058,000	7.8	830	1,151	1,151	11,579,390	19.3
Institutions.....	(?)	2,000,000	1.6	(?)	(?)	362	724,300	1.2

¹ Half of the consumer units of each type had incomes below the median. The median income is a much more characteristic or typical income than the mean (the aggregate income divided by the number of consumer units) because of the exceptionally high incomes received by a few.

² Not available.

Number of Consumer Units and Aggregate Income at Various Levels

The lowest level of income in the classification of consumer units given in the report is composed of incomes under \$250 and the highest level consists of incomes of \$1,000,000 and over. The estimated number of families receiving less than \$250 was 1,162,890 and the number of single individuals receiving less than this amount was 960,644, the two together comprising 5.38 percent of all consumer units. The number of families receiving \$1,000,000 or more was 75 and the number of single individuals was 12. A summary of the number of families and of single individuals and of the two combined at different income levels, together with their aggregate income at these levels, is given for convenient reference in table 2. Percentages at each level

³ It is important to note that the distribution of income here described relates only to the 12 months from July 1935 through June 1936. The figures for later years, if available, would be somewhat different because of changes affecting both the aggregate income and the income status of the various groups.

and the cumulative percentages, both of the number of units and of aggregate income, are also given in this table.

TABLE 2.—Number of consumer units and aggregate income received at various income levels, 1935-36

Income level	Families and single individuals combined			Families			Single individuals		
	Number or amount	Per cent at each level	Cumulative per cent	Number or amount	Per cent at each level	Cumulative per cent	Number or amount	Per cent at each level	Cumulative per cent
Number of units									
All levels	39,458,300	100.00		29,400,300	100.00		10,058,000	100.00	
Under \$250	2,123,534	5.38	5.38	1,162,890	3.95	3.95	960,644	9.55	9.55
\$250-\$500	4,587,377	11.63	17.01	3,015,394	10.26	14.21	1,571,983	15.63	25.18
\$500-\$750	5,771,960	14.63	31.64	3,799,215	12.92	27.13	1,972,745	19.62	44.80
\$750-\$1,000	5,876,078	14.90	46.54	4,277,048	14.55	41.68	1,599,030	15.91	60.71
\$1,000-\$1,250	4,990,995	12.65	59.19	3,882,444	13.20	54.88	1,108,551	11.02	71.73
\$1,250-\$1,500	3,743,428	9.49	68.68	2,865,472	9.75	64.63	877,956	8.73	80.46
\$1,500-\$1,750	2,889,904	7.32	76.00	2,343,358	7.97	72.60	546,546	5.43	85.89
\$1,750-\$2,000	2,296,022	5.82	81.82	1,897,037	6.45	79.05	398,985	3.97	89.86
\$2,000-\$2,250	1,704,535	4.32	86.14	1,420,883	4.83	83.88	283,652	2.82	92.68
\$2,250-\$2,500	1,284,076	3.18	89.32	1,043,977	3.55	87.43	210,099	2.09	94.77
\$2,500-\$3,000	1,475,474	3.74	93.06	1,314,199	4.47	91.90	161,275	1.60	96.37
\$3,000-\$3,500	851,919	2.16	95.22	743,559	2.53	94.43	108,360	1.08	97.45
\$3,500-\$4,000	502,159	1.27	96.49	438,428	1.49	95.92	63,731	.63	98.08
\$4,000-\$4,500	286,053	.72	97.21	249,948	.85	96.77	36,105	.36	98.44
\$4,500-\$5,000	178,138	.45	97.66	152,647	.52	97.29	25,491	.25	98.69
\$5,000-\$7,500	380,266	.96	98.62	322,950	1.10	98.39	57,316	.57	99.26
\$7,500-\$10,000	215,642	.55	99.17	187,060	.64	99.03	28,582	.28	99.54
\$10,000-\$15,000	152,682	.39	99.56	131,821	.45	99.48	20,861	.21	99.75
\$15,000-\$20,000	67,923	.17	99.73	58,487	.20	99.68	9,436	.09	99.84
\$20,000-\$25,000	39,825	.10	99.83	34,208	.12	99.80	5,617	.06	99.90
\$25,000-\$30,000	25,583	.06	99.89	22,233	.08	99.88	3,350	.03	99.93
\$30,000-\$40,000	17,959	.05	99.94	15,561	.05	99.93	2,398	.02	99.95
\$40,000-\$50,000	8,340	.02	99.96	6,603	.02	99.95	1,737	.02	99.97
\$50,000-\$100,000	13,041	.03	99.99	10,571	.04	99.99	2,470	.02	99.99
\$100,000-\$250,000	4,144	.01	100.00	3,336	.01	100.00	808	.01	100.00
\$250,000-\$500,000	916	(¹)	-----	699	(¹)	-----	217	(¹)	-----
\$500,000-\$1,000,000	240	(¹)	-----	197	(¹)	-----	43	(¹)	-----
\$1,000,000 and over	87	(¹)	-----	75	(¹)	-----	12	(¹)	-----
Amount of aggregate income (in thousands)									
All levels	\$59,258,628	100.00		\$47,679,238	100.00		\$11,579,390	100.00	
Under \$250	294,138	.50	0.50	135,836	.28	0.28	158,302	1.37	1.37
\$250-\$500	1,767,363	2.98	3.48	1,166,509	2.45	2.73	600,854	5.19	6.59
\$500-\$750	3,615,653	6.10	9.58	2,384,017	5.00	7.73	1,231,636	10.63	17.16
\$750-\$1,000	5,129,506	8.65	18.23	3,738,014	7.84	15.57	1,391,492	12.01	29.20
\$1,000-\$1,250	5,589,111	9.42	27.65	4,348,429	9.12	24.69	1,240,682	10.71	39.91
\$1,250-\$1,500	5,109,112	8.62	36.27	3,907,765	8.20	32.89	1,201,347	10.37	50.28
\$1,500-\$1,750	4,660,793	7.87	44.14	3,777,570	7.92	40.81	883,223	7.63	57.91
\$1,750-\$2,000	4,214,203	7.11	51.25	3,468,803	7.27	48.08	745,400	6.44	64.35
\$2,000-\$2,250	3,602,861	6.08	57.33	3,002,082	6.30	54.38	600,779	5.19	69.54
\$2,250-\$2,500	2,968,932	5.01	62.34	2,471,672	5.18	59.56	497,260	4.29	73.83
\$2,500-\$3,000	4,004,774	6.76	69.10	3,568,624	7.48	67.04	436,150	3.77	77.60
\$3,000-\$3,500	2,735,457	4.62	73.72	2,385,993	5.00	72.04	349,494	3.02	80.62
\$3,500-\$4,000	1,863,384	3.14	76.86	1,625,887	3.41	75.45	237,497	2.05	82.67
\$4,000-\$4,500	1,202,826	2.03	78.89	1,048,368	2.20	77.65	154,458	1.33	84.00
\$4,500-\$5,000	841,766	1.42	80.31	719,447	1.51	79.16	122,319	1.06	85.06
\$5,000-\$7,500	2,244,406	3.79	84.10	1,900,091	3.99	83.15	344,315	2.97	88.03
\$7,500-\$10,000	1,847,820	3.12	87.22	1,605,632	3.37	86.52	242,188	2.09	90.12
\$10,000-\$15,000	1,746,925	2.95	90.17	1,496,600	3.14	89.66	250,325	2.16	92.28
\$15,000-\$20,000	1,174,574	1.98	92.15	1,013,664	2.13	91.79	160,910	1.39	93.67
\$20,000-\$25,000	889,114	1.50	93.65	762,240	1.60	93.39	126,874	1.10	94.77
\$25,000-\$30,000	720,268	1.22	94.87	627,567	1.32	94.71	92,701	.80	95.57
\$30,000-\$40,000	641,272	1.08	95.95	560,390	1.18	95.89	80,882	.70	96.27
\$40,000-\$50,000	390,311	.66	96.61	314,689	.66	96.55	75,622	.65	96.92
\$50,000-\$100,000	908,485	1.53	98.14	755,017	1.58	98.13	153,468	1.33	98.25
\$100,000-\$250,000	539,006	.91	99.05	440,554	.92	99.05	98,452	.85	99.10
\$250,000-\$500,000	264,498	.45	99.50	200,174	.42	99.47	64,324	.56	99.66
\$500,000-\$1,000,000	134,803	.23	99.73	110,954	.23	99.70	23,849	.21	99.87
\$1,000,000 and over	157,237	.27	100.00	142,650	.30	100.00	14,587	.13	100.00

¹ Less than 0.005 percent.

In the lowest third of the Nation's consumer units, with incomes under \$780, there were about 4,688,000 single individuals and 8,465,000 families. Among this lowest third 30.4 percent received some relief during the year. Among the middle third, with incomes from \$780 to \$1,450, 12.8 percent received some relief, 12.0 percent of the number being families. Among the highest third, with incomes beginning at \$1,450, 2.3 percent of the families and no single individuals received relief. (See table 3.)

TABLE 3.—Families and single individuals in each third of the Nation, by type of consumer unit, 1935-36

Type of consumer unit	Number of consumer units in—			
	All income classes	Lowest third (incomes under \$780)	Middle third (incomes of \$780 to \$1,450)	Highest third (incomes of \$1,450 and over)
All consumer units ¹	39,458,292	13,152,764	13,152,764	13,152,764
Single individuals.....	10,058,035	4,687,677	3,218,484	2,151,874
Families.....	29,400,257	8,465,087	9,934,280	11,000,890
Not receiving relief: ²				
Single individuals.....	8,572,463	3,304,364	3,116,225	2,151,874
Men.....	5,509,262	1,714,138	2,176,205	1,618,919
Women.....	3,063,201	1,590,226	940,020	532,955
Families.....	24,913,177	5,853,406	8,358,167	10,701,604
2 persons.....	6,668,850	2,017,505	2,274,486	2,376,859
3-4 persons.....	11,170,365	2,314,794	3,699,034	5,156,537
5-6 persons.....	4,804,379	959,222	1,604,467	2,240,690
7 or more persons.....	2,269,583	561,885	780,180	927,518
Receiving some relief ²	5,972,652	3,994,994	1,678,372	299,286
Single individuals.....	1,485,572	1,383,313	102,259	-----
Families.....	4,487,080	2,611,681	1,576,113	299,286

Type of consumer unit	Percent of consumer units in—				Percentage of group in—			
	All income classes	Lowest third	Middle third	Highest third	All income classes	Lowest third	Middle third	Highest third
All consumer units ¹	100.0	100.0	100.0	100.0	100.0	33.3	33.3	33.4
Single individuals.....	25.5	35.6	24.5	16.4	100.0	46.6	32.0	21.4
Families.....	74.5	64.4	75.5	83.6	100.0	28.8	33.8	37.4
Not receiving relief: ²								
Single individuals.....	21.7	25.1	23.7	16.4	100.0	38.5	36.4	25.1
Men.....	13.9	13.0	16.5	12.3	100.0	31.1	39.5	29.4
Women.....	7.8	12.1	7.2	4.1	100.0	51.9	30.7	17.4
Families.....	63.1	44.5	63.5	81.3	100.0	23.5	33.5	43.0
2 persons.....	16.9	15.3	17.3	18.1	100.0	30.3	34.1	35.6
3-4 persons.....	28.3	17.6	28.1	39.2	100.0	20.7	33.1	46.2
5-6 persons.....	12.2	7.3	12.2	17.0	100.0	20.0	33.4	46.6
7 or more persons.....	5.7	4.3	5.9	7.0	100.0	24.7	34.4	40.9
Receiving some relief ²	15.2	30.4	12.8	2.3	100.0	66.9	28.1	5.0
Single individuals.....	3.8	10.5	.8	-----	100.0	93.1	6.9	-----
Families.....	11.4	19.9	12.0	2.3	100.0	58.2	35.1	6.7

¹ Excludes institutional groups. See table 1.

² Families are classified as receiving relief if they received any direct or work relief (however little) at any time during year. Many such families were dependent on relief for part of the year only, and then may have been only partially dependent. The incomes of the relief group therefore include earnings from regular employment and other nonrelief income as well as direct relief, in cash and kind, and work-relief earnings.

The families and single individuals making up the poorest third in the Nation, with incomes under \$780 and averaging \$471, were not a distinct and unusual group. They belonged to all the major occupational groups, included all types of consumers and lived in all kinds of

communities. More than 9,000,000, or about 70 percent, received no assistance from relief agencies. Wage earners and farmers comprised the major portion of the lowest third.

The highest income received by the tenth of the Nation's consumer units with lowest incomes was \$340 and the total amount received was \$2,600 and the aggregate income was \$21,452,000,000, or 36.2 percent of the total. The tenth of the Nation's income going to those with highest incomes was received by 12,745,000 consumer units, or approximately one-third of the total number. The tenth going to those with highest incomes was received by 197,000 consumer units, or half of 1 percent of the total number.

TABLE 4.—Share of aggregate income received by each tenth of the Nation's consumer units¹ and by the upper 5 percent, 1935-36

Proportion of families and single individuals	Income range	Aggregate income		
		Amount (in millions)	Percent in each group	Cumulative percent
Highest 1 percent.....	\$9,100 and over.....	\$8, 178	13.8	
Highest 2 percent.....	\$5,800 and over.....	10, 904	18.4	
Highest 3 percent.....	\$4,325 and over.....	12, 859	21.7	
Highest 4 percent.....	\$3,800 and over.....	14, 518	24.5	
Highest 5 percent.....	\$3,400 and over.....	16, 118	27.2	
Highest tenth.....	\$2,600 and over.....	21, 452	36.2	100.0
Ninth tenth.....	\$1,925-\$2,600.....	8, 593	14.5	63.8
Eighth tenth.....	\$1,540-\$1,925.....	6, 815	11.5	49.3
Seventh tenth.....	\$1,275-\$1,540.....	5, 511	9.3	37.8
Sixth tenth.....	\$1,070-\$1,275.....	4, 444	7.5	28.5
Fifth tenth.....	\$880-\$1,070.....	3, 911	6.6	21.0
Fourth tenth.....	\$720-\$880.....	3, 259	5.5	14.4
Third tenth.....	\$545-\$720.....	2, 548	4.3	8.9
Second tenth.....	\$340-\$545.....	1, 719	2.9	4.6
Lowest tenth.....	Under \$340.....	1, 007	1.7	1.7
Total.....		59, 259	100.0	

¹ Excludes institutions.

TABLE 5.—Proportion of the Nation's consumer units¹ receiving each tenth of aggregate income, 1935-36

Proportion of aggregate income	Income range	Families and single individuals		
		Number	Percent in each group	Cumulative percent
All units.....		39, 458, 000	100.0	
Highest tenth.....	\$14,600 and over.....	197, 000	.5	100.0
Ninth tenth.....	\$4,900-\$14,600.....	750, 000	1.9	99.5
Eighth tenth.....	\$3,100-\$4,900.....	1, 618, 000	4.1	97.6
Seventh tenth.....	\$2,375-\$3,100.....	2, 249, 000	5.7	93.5
Sixth tenth.....	\$1,950-\$2,375.....	2, 801, 000	7.1	87.8
Fifth tenth.....	\$1,610-\$1,950.....	3, 433, 000	8.7	80.7
Fourth tenth.....	\$1,320-\$1,610.....	3, 985, 000	10.1	72.0
Third tenth.....	\$1,040-\$1,320.....	5, 130, 000	13.0	61.9
Second tenth.....	\$760-\$1,040.....	6, 550, 000	16.6	48.9
Lowest tenth.....	Under \$760.....	12, 745, 000	32.3	32.3

¹ Excludes institutions.

Incomes of Main Occupational Groups

The information regarding families is comparatively detailed. In the case of nonrelief families, wage-earning families comprised 37.9 percent of the total—9,459,300 out of a total of 24,913,200—and received 27.5 percent of the aggregate income. Farm families comprised 24.8 percent of all nonrelief families and received 17.5 percent of the total income. The average income (mean) of farm families was \$1,259 as compared with \$1,289 in the case of wage-earning families. The average income per family in the other groups (clerical, salaried business, independent business, salaried professional, and independent professional) ranged from \$1,901 for the clerical group to \$6,734 for the independent professional group. A miscellaneous group, which included families with no income from earnings during the year and village and city families with major earnings from farming, averaged \$1,696. The average income of families deriving their principal income from independent business activities was only \$2,547, but in this group were extremely large numbers of storekeepers and owners of small service establishments, etc.—groups with income status resembling that of farmers and wage earners. (See tables 6 and 7.) In most of these groups the significance of the mean averages is restricted by the wide range of incomes within the groups.

TABLE 6.—Average and aggregate incomes of nonrelief families¹ in eight occupational groups,² 1935-36

Occupational group	Families		Average income per family		Aggregate income	
	Number	Percent	Median	Mean	Amount (in thousands)	Percent
All groups.....	24, 913, 200	100. 0	\$1, 285	\$1, 781	\$44, 359, 900	100. 0
Wage-earning.....	9, 459, 300	37. 9	1, 175	1, 289	12, 189, 038	27. 5
Farming ³	6, 166, 600	24. 8	965	1, 259	7, 763, 570	17. 5
Clerical.....	3, 626, 200	14. 5	1, 710	1, 901	6, 893, 835	15. 5
Business:						
Salaried.....	1, 112, 600	4. 5	2, 485	4, 212	4, 686, 662	10. 6
Independent.....	2, 372, 700	9. 5	1, 515	2, 547	6, 043, 451	13. 6
Professional:						
Salaried.....	989, 200	4. 0	2, 100	3, 087	3, 053, 568	6. 9
Independent.....	340, 900	1. 4	3, 540	6, 734	2, 295, 669	5. 2
Other ⁴	845, 700	3. 4	745	1, 696	1, 434, 107	3. 2

¹ Excludes all families receiving any direct or work relief (however little) at any time during year.

² Families are classified according to occupation from which largest amount of family earnings was derived, rather than according to occupation of the principal earner.

³ Includes families living on farms in rural areas only.

⁴ Includes families with no income from earnings during the year, and village and city families with major earnings from farming.

The percentages of nonrelief families in seven occupational groups at various income levels are shown in table 7.

TABLE 7.—Percentages of nonrelief families¹ in seven occupational groups² at various income levels, 1935-36

Income level	Families in—						
	Wage-earning group	Farm-ing group ³	Cler-ical group	Business group		Professional group	
				Salaried	Inde-pendent	Salaried	Inde-pendent
All levels.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under \$250.....	3.0	3.8	.5	.1	1.5	.7	.2
\$250-\$500.....	7.5	13.9	1.7	.3	6.1	1.7	.4
\$500-\$750.....	12.0	18.0	4.6	1.3	9.1	3.1	1.2
\$750-\$1,000.....	16.2	16.6	9.2	2.9	10.6	4.8	2.6
\$1,000-\$1,250.....	16.2	12.8	11.8	5.1	12.4	6.8	5.1
\$1,250-\$1,500.....	12.7	9.8	12.0	5.8	9.8	9.1	4.6
\$1,500-\$1,750.....	9.8	7.0	12.1	9.1	9.0	9.6	3.8
\$1,750-\$2,000.....	7.4	4.8	11.0	9.3	7.6	10.5	4.9
\$2,000-\$2,250.....	4.8	3.1	9.4	8.9	6.3	9.9	4.2
\$2,250-\$2,500.....	3.2	2.5	7.1	7.7	4.4	7.8	5.2
\$2,500-\$3,000.....	3.9	2.9	8.9	11.8	6.2	10.5	9.2
\$3,000-\$3,500.....	1.7	1.6	5.0	9.2	3.8	7.0	8.1
\$3,500-\$4,000.....	.8	1.0	2.7	6.1	2.4	5.2	5.0
\$4,000-\$4,500.....	.4	.5	1.4	3.6	1.8	2.8	4.3
\$4,500-\$5,000.....	.2	.3	.8	2.5	1.2	2.0	3.8
\$5,000 and over.....	.2	1.4	1.8	16.3	7.8	8.5	37.4

¹ Excludes all families receiving any direct or work relief (however little) at any time during year.

² Families are classified according to occupation from which largest amount of family earnings was derived, rather than according to occupation of the principal earner.

³ Includes families living on farms in rural areas only.

Wages and Farm Income, by Regions

The similarity of the income status of wage earners and farmers is indicated by the fact that the average income of nonrelief families in the two groups was almost the same. There was of course a relatively wide range of income of farm families. The percentages of families in the farming group at the lower income levels were larger than the corresponding percentages of wage-earning families. This is accounted for by the large numbers of sharecroppers, casual farm workers, and subsistence farmers. In the South, for example, 8.5 percent of nonrelief sharecropper families received less than \$250, and in the Mountain and Plains region 13.1 percent of all nonrelief farm families received less than \$250. At the other extreme, in the highest ranges of income in the 2 groups the percentages of farm families were larger. It should be noted also that the occupational group classified as "other," with mean incomes above those of wage-earning families, included village and city families with major earnings from farming. These differences in the range of income are not

important. The fact of outstanding significance is the similarity of income status of farmers and wage earners.

TABLE 8.—Percentages of wage-earning families¹ (nonrelief²) in five geographic regions at various income levels, 1935-36

Income level	New England region	North Central region	Southern region			Pacific region
			Moun- tain and Plains region			
All levels.....	100.0	100.0	100.0	100.0	100.0	
Under \$250.....	.6	1.3	8.4	1.4	1.2	
\$250-\$500.....	3.2	4.3	18.6	6.0	3.3	
\$500-\$750.....	9.4	9.6	19.4	13.1	8.4	
\$750-\$1,000.....	18.4	16.5	15.0	18.1	13.8	
\$1,000-\$1,250.....	19.9	17.4	11.4	16.5	18.7	
\$1,250-\$1,500.....	16.0	13.7	7.9	14.8	14.6	
\$1,500-\$1,750.....	10.6	10.8	6.3	10.8	12.5	
\$1,750-\$2,000.....	8.6	8.3	4.3	6.6	10.4	
\$2,000-\$2,250.....	5.1	5.4	2.7	4.8	6.3	
\$2,250-\$2,500.....	3.0	3.8	1.9	2.6	3.5	
\$2,500-\$3,000.....	2.7	4.8	2.2	3.0	4.4	
\$3,000-\$3,500.....	1.3	2.1	.8	1.6	1.4	
\$3,500-\$4,000.....	.7	1.0	.7	.5	.4	
\$4,000-\$4,500.....	.3	.5	.2	.1	.3	
\$4,500-\$5,000.....	.1	.2	.1	.1	.1	
\$5,000 and over.....	.1	.3	.1	(³)	.2	

¹ Families are classified according to occupation from which largest amount of family earnings was derived, rather than according to occupation of the principal earner.

² Excludes all families receiving any direct or work relief (however little) at any time during year.

³ Less than 0.05 percent.

The percentage distribution of farm families, not receiving relief, in five geographic divisions at various income levels is given in table 9.

TABLE 9.—Percentages of farm families¹ (nonrelief²) in five geographic regions at various income levels, 1935-36

Income level	New England region	North Central region	Southern region			Moun- tain and Plains region	Pacific region
			Total	Opera- tors	Share- croppers		
All levels.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under \$250.....	1.2	2.2	3.4	1.8	8.5	13.1	3.3
\$250-\$500.....	5.2	5.5	20.7	15.4	37.9	13.9	6.0
\$500-\$750.....	12.6	11.3	23.8	21.6	30.4	15.9	10.8
\$750-\$1,000.....	17.4	16.1	17.4	18.4	13.9	16.2	13.7
\$1,000-\$1,250.....	18.5	15.8	10.7	12.4	5.3	12.5	12.0
\$1,250-\$1,500.....	10.6	13.5	7.3	8.9	2.5	8.2	10.6
\$1,500-\$1,750.....	11.6	10.4	4.7	5.8	1.0	5.4	8.6
\$1,750-\$2,000.....	7.0	7.4	2.9	3.7	.5	3.8	7.4
\$2,000-\$2,250.....	5.0	4.3	1.9	2.5	.....	3.0	5.6
\$2,250-\$2,500.....	4.4	3.9	1.4	1.8	.....	1.9	3.9
\$2,500-\$3,000.....	3.5	4.2	1.9	2.5	.....	2.0	4.8
\$3,000-\$3,500.....	1.0	2.2	1.1	1.5	.....	1.8	3.1
\$3,500-\$4,000.....	.4	1.4	.7	.9	.....	.7	2.2
\$4,000-\$4,500.....	.4	.5	.5	.6	.....	.3	1.3
\$4,500-\$5,000.....	.1	.2	.3	.4	.....	.2	.9
\$5,000-\$7,500.....	.3	.6	.6	.8	.....	.8	1.7
\$7,500-\$10,000.....	.8	.4	.2	.3	.....	.3	2.3
\$10,000 and over.....	.1	.1	.5	.7	.....	.....	1.8

¹ Includes families living on farms in rural areas only.

² Excludes all families receiving any direct or work relief (however little) at any time during year.

Wage Earners' Incomes, by Size of Community

There were noticeable differences in the income status of nonrelief wage-earning families in communities of different size. The average (mean) income per family ranged from \$1,004 in rural communities to \$1,626 in the metropolises. The percentages of families at the lower levels were greater, as was to be expected, in the smaller communities. For example, in metropolises 6.2 percent of nonrelief wage-earning families received from \$500 to \$750. In large cities (with 100,000 to 1,500,000 population), 10.1 percent were at this income level; in middle-sized cities (25,000 to 100,000 population), the percentage was 12.5; in small cities (2,500 to 25,000 population), 12.4; and in rural communities, 16.6.

It does not necessarily follow from these differences that wage rates for the same types of work vary to the same extent in the several types of communities. The amount of income received is affected by various other factors. It is possible, for instance, that industries with relatively low wage scales in both large and small places were located predominantly in the smaller communities. Another factor is the size of the family and the proportion of members of the family receiving income.

Even when different families receive the same money income, the amount of income in dollars does not measure accurately the variations in real income or purchasing power. There are significant differences in the cost of living in different communities, although in this connection it is important to distinguish variations in cost of living from variations in standards of living and in the cost of maintaining a specified standard of living. In respect to family income, variations in the size of families mean variations in the per capita income even in the case of families at the same level of income. Comparisons of the incomes of the various groups must also be qualified by the fact that in some groups, especially farm families, there is likely to be a larger proportion of unpaid services which in many cases significantly reduce the amount of money income required for maintaining a given standard of living.

The term "income" is used in the report to denote not only net money income from all sources but also the value of certain items of income not in the form of money. The latter includes such items as the net value of the occupancy of a home owned by the occupants, rent received as part of compensation (as when agricultural wage earners are furnished living quarters), the estimated value of direct relief received in kind, and the value of home-grown food and other farm products used on the farm. Personal taxes, such as income, property, and poll taxes, and sales taxes which, like poll taxes, weigh heavily upon the smaller income groups, are not deducted.



Consumer Expenditures in the United States in 1935-36

A companion report to the one on consumer incomes by the National Resources Committee (summarized in the preceding article) dealt with income levels in the United States.¹ As was the case with the

¹ National Resources Committee. *Consumer Expenditures in the United States, Estimates for 1935-36*. Washington, 1939.

consumers' income report the one on expenditures was based almost entirely on the Study of Consumer Purchases in which the Bureau of Labor Statistics and the Bureau of Home Economics cooperated with the National Resources Committee and the Central Statistical Board in a study financed by the Works Progress Administration. It presents general averages for all consumer units (families and single individuals combined) and averages for 15 different income levels, beginning at the "under \$500" income level and proceeding to consumer units with incomes of \$20,000 and over. These figures cover 39 million "consumer units"—29,400,300 families, and 10,058,000 men and women living as lodgers or servants in private homes, rooming houses, or hotels, or maintaining homes of their own as 1-person families. They represent 98 percent of the total population and receive nearly 99 percent of the total consumer income. Estimates of aggregate consumption expenditures for the remaining 2 million consumers (those living in institutional groups) are presented in a separate estimate by type of institution.

The report also gives estimates of consumption expenditures and of savings and deficits for families and for single individuals separately which are brought together in the tables which follow.

Average Spending Patterns of Families

When the expenditures of all families in 1935-36 are analyzed, it becomes apparent that the average income received by more than half of the Nation's families actually was insufficient, for the group as a whole, to meet current needs for food, housing, clothing, and other necessities and comforts of daily living; that is, for families with incomes of less than \$1,250 in 1935-36, average expenditure exceeded average income in that year. This does not mean, of course, that all of these 16 million families spent more than they received in 1935-36. Some of them managed to live within their incomes and even to save something, but these families were not sufficiently numerous, nor their savings sufficiently large, to bring the average expenditures of the group as a whole within the limits of their average income.

For families with incomes of less than \$500, average outlay, including gifts made and personal taxes paid, exceeded average income by \$162, or by almost 52 percent. As the average income increases, this deficit decreases in amount until it disappears and in its place appears a surplus of average income over average outlay. This surplus represents savings—that portion of a family's income not spent for current consumption.

The proportion of the total income saved grows rather rapidly as income advances, increasing from a bare 1 percent for incomes between \$1,250 and \$1,500, to 30 percent for those between \$5,000 and \$10,000, and to more than 50 percent, on the average, for incomes of \$20,000 and over.

The fact that the proportion of income spent for current consumption decreases as income increases does not mean a decline in the actual dollars spent for current consumption. On the contrary, outlays for commodities and services rise very rapidly with income.

Families in the lowest income group spent an average of \$203 on food (the largest single item in the family budget at all income levels up to \$20,000), \$90 a year on housing, \$57 on household operation, and \$35 on clothing. Those in the group with incomes of \$20,000 and over spent on the same items an average of \$2,261, \$2,721, \$2,177, and \$2,177, respectively. The average expenditure on medical care for families was \$22 in the lowest group, as contrasted with \$337 for those in the highest. Average recreation expenditures ranged from \$6 to \$921, and average expenditures for automobiles ranged from \$15 to \$1,759.

In addition to meeting their own living expenses, most families pay some direct personal taxes and feel obliged to assist relatives and friends and to contribute to churches and philanthropic organizations. These outlays, on an average, ranged from 2 percent of the total family income for families with incomes below \$1,250 to 14 percent for those with incomes of \$20,000 and over. It must be emphasized that these figures refer only to the specific taxes mentioned and are no indication of the total tax burden borne by the different income groups. Inheritance, estate, and gift taxes do not appear in these estimates. Property taxes on owned homes, automobile and gasoline taxes, sales taxes, and taxes on tobacco, liquor, and amusements have been included in the estimates of expenditures for these goods and services. Direct taxes on business operations and on income-producing property were deducted as business expenses in calculating net consumer income.

TABLE 1.—Average outlay of American families, by income level, 1935-36

[Estimates of National Resources Committee based on the Study of Consumer Purchases]

Item	All families	Families with incomes of—						
		Under \$500	\$500 to \$750	\$750 to \$1,000	\$1,000 to \$1,250	\$1,250 to \$1,500	\$1,500 to \$1,750	\$1,750 to \$2,000
Percent of families.....	100.0	14.2	12.9	14.6	13.2	9.8	8.0	6.4
Average income.....	\$1,622	\$312	\$627	\$874	\$1,120	\$1,364	\$1,612	\$1,829
Percent of income for—								
Savings.....	10.1	51.9	14.6	6.6	2.8	1.0	3.5	5.0
Food, total.....	28.8	65.0	49.5	43.5	38.7	35.7	32.7	30.5
Purchased.....	24.4	50.0	36.5	34.3	31.9	29.5	27.9	26.8
Home-produced ?.....	4.4	15.0	13.0	9.2	6.8	6.2	4.8	3.7
Housing, total.....	15.3	28.9	19.9	18.5	18.1	16.9	16.6	16.5
Money expense.....	10.4	19.9	13.5	13.2	12.7	11.6	11.5	11.8
Imputed value ³	4.9	9.0	6.4	5.3	5.4	5.3	5.1	4.7
Household operation.....	10.0	18.2	13.5	12.1	11.6	10.9	10.3	10.2
Furnishings.....	2.9	2.9	2.5	3.1	3.4	3.5	3.5	3.7
Clothing.....	8.7	11.2	8.9	8.9	8.9	9.0	9.1	9.0
Automobile.....	7.0	4.8	4.5	5.0	6.3	6.8	7.6	8.4
Transportation other than automobile.....	1.0	1.0	.8	1.0	1.0	1.0	1.0	1.0
Personal care.....	1.7	2.9	2.2	2.1	2.1	2.0	2.0	1.9
Medical care.....	4.0	7.1	4.7	4.3	4.2	4.2	4.4	4.3
Recreation.....	2.5	1.9	1.7	1.9	2.2	2.3	2.6	2.7
Tobacco.....	1.6	2.9	2.3	2.2	2.0	2.0	1.8	1.8
Reading.....	.8	1.3	.9	1.0	1.0	1.0	.9	.9
Formal education.....	.9	.6	.5	.5	.6	.7	.7	.8
Gifts.....	2.8	2.0	1.6	1.8	1.9	2.3	2.5	2.7
Personal taxes ⁴	1.5	.6	.3	.2	.3	.2	.2	.2
Other items.....	.4	.6	.8	.5	.5	.5	.6	.4

See footnotes at end of table.

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TABLE 1.—Average outlay of American families, by income level, 1935-36—Con.

Item	Families with incomes of—							
	\$2,000 to \$2,500	\$2,500 to \$3,000	\$3,000 to \$4,000	\$4,000 to \$5,000	\$5,000 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over
Percent of families.....	8.4	4.5	4.0	1.4	1.7	0.4	0.2	0.3
Average income.....	\$2,221	\$2,715	\$3,394	\$4,391	\$6,874	\$11,353	\$17,331	\$41,871
Percent of income for—								
Savings.....	8.2	11.6	15.6	20.6	29.5	38.9	39.9	50.7
Food, total.....	27.8	25.4	22.7	19.4	15.1	10.7	10.3	5.4
Purchased.....	24.9	22.8	20.5	17.9	14.1	10.3	10.0	5.3
Home-produced ¹	2.9	2.6	2.2	1.5	1.0	.4	.3	.1
Housing, total.....	15.7	14.9	14.3	13.0	11.4	10.6	8.6	6.5
Money expense.....	10.9	10.1	9.6	8.6	7.5	7.0	5.2	3.5
Imputed value ²	4.8	4.8	4.7	4.4	3.9	3.6	3.4	3.0
Household operation.....	9.6	9.6	9.4	9.1	8.5	6.7	6.8	5.2
Furnishings.....	3.4	3.1	3.0	2.5	2.3	2.0	1.6	1.1
Clothing.....	9.3	9.4	9.3	9.3	8.1	7.3	7.3	5.2
Automobile.....	9.0	8.9	8.5	8.7	7.6	6.0	5.3	4.2
Transportation other than auto- mobile.....	1.0	.9	.9	.8	.7	1.0	2.3	1.0
Personal care.....	1.9	1.8	1.6	1.5	1.3	1.0	.9	.6
Medical care.....	4.1	4.0	3.9	3.6	3.6	2.0	2.4	2.0
Recreation.....	2.8	3.0	3.1	3.1	3.0	3.0	2.8	2.2
Tobacco.....	1.7	1.5	1.4	1.2	.9	.7	.6	.3
Reading.....	.9	.8	.8	.7	.6	.5	.4	.3
Formal education.....	.9	1.1	1.1	1.3	1.2	2.0	3.1	1.2
Gifts.....	2.9	3.3	3.6	4.2	4.3	4.5	3.8	2.1
Personal taxes ⁴.....	.3	.3	.4	.6	1.4	2.9	3.6	11.8
Other items.....	.5	.4	.4	.4	.5	.2	.3	.2

¹ Deficit as a percent of income.

² For method of imputing money value to home-produced foods, see Consumer Expenditures in the United States, pp. 94, 95. These figures cover rural families only.

³ For method of imputing money value to owned homes, see Bureau of Labor Statistics Bull. No. 642, vol. II, pp. 230-231.

⁴ Taxes shown here include only personal income taxes, poll taxes, and certain personal property taxes.

Average Spending Patterns of Single Individuals

For the 10 million single men and women living alone, average expenditures in excess of average income were relatively less in amount in 1935-36 and savings were somewhat larger than in the case of families. Moreover, the income level at which average expenditures cease to exceed average income is lower—\$1,000 as contrasted with \$1,250. Approximately the same proportion of total expenditures is spent for food by single individuals as by families in all income groups. In dollar value, however, the average food bill of single individuals at a given income level naturally tends to be somewhat lower than that of families. A slightly larger percentage of income is spent for housing by individuals than by families, but this is offset by lower expenditures for household operation and furnishings, so that the average family expenditures for shelter—when these three items are added together—are somewhat greater than those of single men and women. On the other hand, the clothing expenditures of individuals tend to be somewhat higher up to the \$2,500 income level, and outlays for gifts and personal taxes average decidedly more for single individuals than for families at every income level above \$500.

TABLE 2.—Average outlay of American single individuals,¹ by income level, 1935-36

[Estimates of National Resources Committee²]

Item	All single individuals	Single individuals with incomes of—						
		Under \$500	\$500 to \$750	\$750 to \$1,000	\$1,000 to \$1,250	\$1,250 to \$1,500	\$1,500 to \$1,750	\$1,750 to \$2,000
Percent of persons.....	100.0	25.2	19.6	15.9	11.0	8.7	5.4	4.0
Average income.....	\$1,151	\$300	\$623	\$873	\$1,119	\$1,368	\$1,617	\$1,868
Percent of income for—								
Savings.....	10.1	³ 16.3	³ 2.7	³ 0.5	2.0	4.7	7.2	9.6
Food.....	27.2	53.3	37.9	33.8	31.5	29.2	27.0	25.3
Housing.....	19.2	33.6	24.9	22.1	20.1	18.9	18.0	17.3
Household operation.....	4.5	4.0	5.0	5.3	5.4	5.3	5.2	5.0
Furnishings.....	.3	(⁴)	.3	.3	.3	.3	.3	.3
Clothing.....	9.7	8.7	11.7	11.7	11.0	10.5	10.3	10.1
Automobile.....	3.7	(⁴)	1.0	2.2	3.4	4.1	4.5	4.8
Transportation other than automobile.....	3.7	6.4	5.0	4.5	4.0	3.7	3.5	3.3
Personal care.....	1.7	3.0	2.5	2.3	2.0	1.8	1.7	1.6
Medical care.....	2.9	1.7	2.2	2.5	2.7	2.8	3.0	3.1
Recreation.....	3.7	1.0	2.6	3.4	4.0	4.3	4.4	4.5
Tobacco.....	1.8	1.0	1.8	2.2	2.4	2.4	2.4	2.3
Reading.....	1.4	2.3	1.9	1.8	1.6	1.5	1.4	1.4
Formal education.....	.4	(⁴)	.5	.7	.7	.7	.6	.5
Gifts and personal taxes ⁵	8.9	1.3	5.1	7.1	8.3	9.1	9.7	10.0
Other items.....	.8	(⁴)	.3	.6	.6	.7	.8	.9

Item	Single individuals with incomes of—							
	\$2,000 to \$2,500	\$2,500 to \$3,000	\$3,000 to \$4,000	\$4,000 to \$5,000	\$5,000 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over
Percent of persons.....	4.9	1.6	1.7	0.6	0.9	0.2	0.1	0.2
Average income.....	\$2,225	\$2,703	\$3,411	\$4,491	\$6,827	\$11,999	\$17,052	\$43,884
Percent of income for—								
Savings.....	12.5	15.6	19.9	25.1	31.4	38.8	42.1	51.4
Food.....	23.1	21.4	18.6	15.5	12.4	8.9	7.5	5.0
Housing.....	16.6	15.6	15.1	14.8	13.8	13.4	12.5	9.8
Household operation.....	4.8	4.6	4.2	3.6	3.1	2.5	2.1	1.5
Furnishings.....	.4	.3	.3	.4	.4	.3	.3	.2
Clothing.....	9.8	9.1	8.9	8.8	7.6	6.4	5.5	4.0
Automobile.....	5.1	5.7	5.8	5.3	5.6	5.3	5.9	4.5
Transportation other than automobile.....	3.1	2.9	2.7	2.6	2.2	2.0	1.7	1.3
Personal care.....	1.5	1.3	1.2	1.1	.9	.6	.5	.3
Medical care.....	3.2	3.4	3.5	3.6	3.7	3.6	3.7	2.8
Recreation.....	4.6	4.7	4.6	4.1	4.0	3.4	3.5	2.6
Tobacco.....	2.1	2.0	1.7	1.3	1.0	.6	.5	.3
Reading.....	1.3	1.1	1.0	.8	.6	.4	.3	.2
Formal education.....	.5	.4	.3	.2	.1	.1	.1	.1
Gifts and personal taxes ⁵	10.4	10.8	11.1	11.6	12.0	12.6	12.6	15.1
Other items.....	1.0	1.1	1.1	1.2	1.2	1.1	1.2	.9

¹ Persons who maintained an independent economic status and thus constituted individual consuming units.

² Based on the Study of Consumer Purchases in Chicago, Ill., and Portland, Oreg.; the U. S. Bureau of Labor Statistics Study of Money Disbursements of Wage Earners and Clerical Workers in Philadelphia made in cooperation with the Pennsylvania Emergency Relief Board; the Study of the Cost of Living of Federal Employees in Washington made by the U. S. Bureau of Labor Statistics and Home Economics; and the Young Women's Christian Association Business Girls' Budget Project.

³ Deficit as a percent of income.

⁴ Less than 0.05 percent.

⁵ Taxes shown here include only personal income taxes, poll taxes, and certain personal property taxes.

Defense Labor Activities

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Labor Policy of National Defense Advisory Commission ¹

In connection with the defense effort the National Defense Advisory Commission made the following announcement, on September 1, 1940, of the policy to be followed in regard to hours of work, wages, working conditions, and other questions relating to labor.

Primary among the objectives of the Advisory Commission to the Council of National Defense is the increase in production of materials required by our armed forces and the assurance of adequate future supply of such materials with the least possible disturbance to production of supplies for the civilian population. The scope of our present program entails bringing into production many of our unused resources of agriculture, manufacturing, and manpower.

This program can be used in the public interest as a vehicle to reduce unemployment and otherwise strengthen the human fiber of our Nation. In the selection of plant locations for new production, in the interest of national defense, great weight must be given to this factor.

In order that surplus and unemployed labor may be absorbed in the defense program, all reasonable efforts should be made to avoid hours in excess of 40 per week. However, in emergencies or where the needs of the national defense cannot otherwise be met, exceptions to this standard should be permitted. When the requirements of the defense program make it necessary to work, in excess of these hours, or where work is required on Saturdays, Sundays, or holidays, overtime should be paid in accordance with the local recognized practices.

All work carried on as part of the defense program should comply with Federal statutory provisions affecting labor wherever such provisions are applicable. This applies to the Walsh-Healey Act, Fair Labor Standards Act, the National Labor Relations Act, etc. There should also be compliance with State and local statutes affecting labor relations, hours of work, wages, workmen's compensation, safety, sanitation, etc.

Adequate provision should be made for the health and safety of employees.

As far as possible, the local employment or other agencies designated by the United States Employment Service should be utilized.

Workers should not be discriminated against because of age, sex, race, or color.

Adequate housing facilities should be made available for employees.

The Commission reaffirms the principles enunciated by the Chief of Ordnance of the United States Army, during the World War, in his order of November 15, 1917, relative to the relation of labor standards to efficient production:

In view of the urgent necessity for a prompt increase in the volume of production * * *, vigilance is demanded of all those in any way associated with industry lest the safeguards with which the people of this country have sought to protect labor should be unwisely and unnecessarily broken down. It is a fair assumption that for the most part these safeguards are the mechanisms of efficiency. Industrial history proves that reasonable hours, fair working conditions, and a proper wage scale are essential to high production. * * * every attempt should be made to conserve in every way possible all of our achievements in the way of social betterment. But the pressing argument for maintaining industrial safeguards in the present emergency is that they actually contribute to efficiency.

¹ From the Monthly Labor Review for October 1940.

Labor Under the Selective Service Law ¹

The first law calling for peace-time military conscription of manpower in the United States became effective on September 16, 1940.² The act, officially known as the "Selective Training and Service Act of 1940" provides legislation for the common defense of the Nation by increasing the personnel of the armed forces and providing for its training. The act will continue in operation until May 15, 1945, unless extended or repealed by subsequent action of the Congress. Registration of all men between the ages of 21 and 36 took place on October 16th.

A second registration was conducted on July 1, 1941, for all men reaching 21 years since the previous registration. Amendatory legislation in 1941 provided for deferment of men 28 years and over, and extended the normal period of service from 12 to 18 months.

General Provisions

In addition to the compulsory provisions of the act, any person between the ages of 18 and 36 may volunteer for the same type of service as is provided for others under the terms of the legislation. Service in either case, however, is limited to the Western Hemisphere, but including the Territories and possessions of the United States and the Philippine Islands. The only exemptions from the liability of military service cover certain legislative and judicial officials and specified persons already in military service, and ordained ministers of religion as well as bona fide theological and divinity students.

Provisions Affecting Labor

Every employer must consider a drafted employee as in the class of a furloughed employee or as one on leave of absence and hence grant to such employee those benefits ordinarily extended to other employees. After a draftee has completed his term of service in the armed forces, the employer must restore him to his former job, or to a position of "like seniority, status, and pay," or to other benefits unless the employer's circumstances have so changed that it is "impossible or unreasonable to do so." However, as a condition precedent to such restoration, the former employee must have received a certificate of service and must have made the request for reinstatement within 40 days following his release from the service. An employee restored to his former job cannot be discharged without cause for a period of 1 year. Any employer refusing to rehire a trainee may be forced to act by the District Court of the United States for the district in which such employer maintains a place of business.

A drafted employee of the Federal Government must be restored to his former job, but in the case of an employee of a State or political subdivision the law merely urges restoration of the job.

Other provisions of interest to employers and employees alike include the establishment of a personnel division that will render aid

¹ From the Monthly Labor Review for October 1940, with later data.

² Public, No. 783, 76th Congress.

in job placements; the restriction on the employer in the hiring of persons who are members of certain groups to take the place of drafted employees; and the protection of the rights of drafted employees who may have entered into contractual relations for installment purchases.

Provisions Applicable to Industry

Although the draft legislation is primarily designed to strengthen the armed forces of the United States, there is included also in the act provisions for the limited conscription of industry. Briefly, the President may require a manufacturer to accept and execute orders for defense materials. Upon refusal, authority is granted to the Government "to take immediate possession of any such plant or plants" and to manufacture any product or material which may be required for defense purposes. For failure to comply with these provisions a person is liable to imprisonment for 3 years and fine of not more than \$50,000. In all such cases of industrial conscription, the Government must reimburse a manufacturer for materials, etc., or pay for the rental of the premises on a basis that "shall be fair and just."



Company Policies Covering Long-Term Military Service of Employees ¹

The selective service law contains several specific provisions regarding the employer's obligation toward draftees. A 1917 Federal statute made it a misdemeanor to pay private compensation to persons in Federal service, but the 1940 law establishing compulsory military service provided that previous prohibitions included in all other laws on this subject should not apply to drafted persons.

Manufacturing, Finance, and Service

A report of the policies toward drafted employees adopted by different member companies was issued by the American Management Association in the latter part of October 1940.² This survey covered 45 companies, of which 28 are manufacturing companies, widely diversified both industrially and geographically; 9 are financial houses; 3, utility and service organizations; and 5, insurance companies.

Fourteen companies stated definitely that they were not planning to make payments to drafted employees, but a number had planned to make payments on somewhat the same basis as had been done previously for 2- and 3-week military-training periods. Among these companies, four will give vacation pay. Ten companies reported that they pay wages or salaries for short periods, without deductions. Seven of these companies are banks, financial houses, or in-

¹ Summary of articles in the Monthly Labor Review for March (p. 583) and June (p. 1386) 1941.

² American Management Association. Company policies regarding long-term military service of employees: Second report. A special survey report for company members of the American Management Association, New York, October 1940; also see American Management Review for November.

insurance companies. A definite policy had not been decided upon by 13 companies in regard to salary or wage payments, but in three cases consideration was being given to the question.

Additional information on the question of compensation for conscripted employees was secured by the American Management Association and published in its *Management Review* for November 1940. These reports showed a higher percentage of cases where such payments are promised than had previously been reported. Of 70 of these more recent statements, 54 reported that compensation would be paid. Eighteen of the companies reported that 1 month's salary or wage would be paid. Two months' salary or wages, it was reported, would be paid by three insurance associations and two manufacturing companies. One of the manufacturing companies will deduct amounts due as contributions to its pension plan and for Federal taxes.

Ten companies will give employees 2 weeks' pay, and in three cases vacation pay will be added if the vacation has not already been taken.

Some companies are making up the difference between Army and company pay, for periods ranging, in the different establishments, from 1 month to a year. Two companies will pay one-half of the worker's regular yearly salary, and two will match Army pay for the entire year.

A number of special plans have also been reported, among which is an unusual feature of payment of specified amounts to men on their return to employment.

Twelve of the companies covered did not maintain pension systems for their employees. Of the 33 companies having such plans, however, 17 reported that credit would be given drafted men for continuous service, although one establishment restricted the period to 1 year, while another stated that credit would be given "unless the problem becomes too extensive." Seven companies reported that continuous-service status would be maintained, but neither the company nor the employees would make contributions during the employees' absence. One company provides for 90-day participation in an annuity and thrift plan, and eight companies did not report on the question. Group life-insurance protection will be maintained for service men by 30 companies, although there were various qualifications.

The Selective Service Act provides for the reinstatement of other than temporary employees of a company to jobs of like seniority, status, and pay, provided that the person has received a certificate of honorable discharge, is still qualified to perform the duties of such a position, and makes application for reemployment within 40 days after he is discharged, unless the employer's circumstances have so changed as to make it impossible or unreasonable for him to reinstate such employees. All the companies, however, believed they would be able to comply with the provisions regarding reinstatement and the maintenance of seniority rights, "short of a national or business catastrophe." A possible difficulty, the report states, is in connection with union jurisdiction.

The law does not settle the point as to whether or not service credit will be given for the period of absence in training. Three of the

companies reported that such credit will be given, and a fourth will give continuous-service credit in case of war, if the man returns within 12 months after honorable discharge. Two of the three companies first mentioned are among the largest in the country.

Retail Dry Goods Stores

A report issued in November 1940 by the National Retail Dry Goods Association³ summarized information furnished by 48 department and specialty stores throughout the country as to their policies under the national defense program. At the time the report was made, a number of the stores had not definitely decided upon the policies to be followed. Store managers reported that the Selective Service Act would affect a larger number of their male employees than they had anticipated.

Thirty out of 47 stores replying to a question concerning preference as to nationality of new employees indicated that they would give preference in employment to American citizens, although the alien problem is not so serious with retail stores as with industrial concerns, particularly those engaged in vital war work.

Most stores indicated that in replacing draftees they would give preference to members of the draftees' families, if they could qualify for the jobs.

At the time the study was made, few stores had formulated definite policies regarding supplementary payments to employees called to service, as they questioned the financial ability of management to pay supplementary compensation for the entire training period. Of 45 stores reporting on this point, only 2 had decided to make such payments while 13 were undecided and 30 either would not pay or probably would not. Of those stores which were contemplating giving supplementary wages, most would pay the difference between store salary and Army pay. In some instances, stores which were not planning to pay supplementary salary would pay for the vacation period to which the draftee would normally be entitled if he remained on the job. Other stores were considering the giving of a cash bonus on completion of the training period and reemployment in the store, on the ground that such extra compensation would be more helpful at that time than in the initial stages of training. Most stores regarded enlistment in the Regular Army for the full service period as a definite and final termination of employment in the store.

It is believed that many stores will maintain the right of drafted employees to such benefits as membership in mutual-aid associations, with resumption of benefit rights immediately upon reemployment without a waiting period, and continuance of group-insurance coverage during the training period if the employee wishes to have it continued and pays the premiums. It is expected that most associated hospitalization plans will permit the individual to continue such coverage for his dependents while in training, by paying a proportionately lower premium in view of the temporary waiving of his own personal benefits.

³ Store management operations and personnel policies under the national defense program. National Retail Dry Goods Association, New York City, November 1940.

Paper Industry

A report by the American Paper and Pulp Association covered the practices of 115 companies regarding absence for military service.⁴ Definite policies had been established by 102 companies.

Although the selective service law does not apply to volunteers, 68 of the companies extended coverage to volunteers as well as to members of the National Guard and Reserve Corps and to draftees; 16 covered drafted men and members of the National Guard and Reserve Corps; and 2 covered conscripted men only. Twenty-seven companies required at least a year of service, while 15 required periods ranging from 30 days to 6 months; 10 companies covered all employees except those on a temporary basis; and 42 companies covered all employees regardless of length of service. Eight companies, according to the report, had no expressed policy on this point.

Thirty-one of the 102 companies had provided for payments to trainees, the lowest allowance so made being 1 week's full pay and the highest being 1 year's company pay less 1 year's pay from the Government. Over half of the companies allowed from 2 weeks' to a month's wages, while nearly 20 percent paid employees at least one-half of the difference between their normal earnings and Government compensation during the entire training period of 1 year. In some cases, also, vacation pay was allowed for a trainee's unused vacation time. The United States Treasury ruled that payments made to employees for military service do not constitute "wages" for social-security tax purposes.

Fifty-three companies reported that they were allowing employees to accumulate seniority during absence for military service, 38 that they were "freezing" seniority as of the date of leaving for military service, and 11 that they had no expressed policy on the question of seniority.

Eighty-seven companies had group life-insurance plans, and in 61 cases the insurance was being continued for employees while in service. Of the 61 companies reporting on their policy in this respect, 49 will pay both their own and the employees' premiums, in 8 cases the premium will be paid jointly by the company and the employee, and in 4 cases the employee will be responsible for the payment of the entire premium. Most companies had discontinued group health and accident coverage, since the Government provides disability and other benefits for trainees.



Military-Service Provisions in Union Agreements⁵

A number of recent union agreements include provisions regarding the seniority and reemployment rights of workers who leave their jobs to enter military service. In some of the agreements the rights apply only if the United States is at war or is in an emergency approximating war conditions. Although some cover only workers who

⁴ American Paper and Pulp Association, *Company Policies Regarding Military Absences in the Paper and Pulp Industry*. New York, 122 East 42d Street, 1941.

⁵ From *Monthly Labor Review*, October 1940 (p. 859).

are conscripted, others include those who volunteer as well. These provisions are usually limited to military duty, but combat relief service and Government civilian service are included in a few instances.

The extent of a worker's rights under these provisions varies. Sometimes there is simply a statement that seniority previously acquired is not lost because of military duty. In other cases seniority with the company continues to accrue during such service. Such provisions give the worker the right to claim a job with the company in preference to junior employees. Other agreements make reemployment compulsory after military service is completed. In some cases the reemployment right is contingent upon physical and mental fitness or an honorable discharge. It is generally understood that the worker must apply for reemployment within a reasonable time after discharge, and some agreements specify the time limit.

Examples of military-service provisions are given below :

Should it become necessary for any employee to leave the service of the company to serve the Federal Government in its Army, Navy, or in Federal mobilization for war purposes, then such employee shall retain and accrue his seniority during such service, provided he returns to the employ of the company within 30 days after his demobilization. Voluntary service with Federal forces after opportunity for demobilization is offered shall deprive such employee of seniority.

Any employee who may enlist or be drafted into the armed forces of the United States Government in time of war, or a state of emergency akin to war, shall be reemployed at the close of the war or state of emergency, without loss of seniority; provided that said employee shall receive an honorable discharge from the armed forces, and provided further that he shall be mentally and physically qualified for reemployment.

Seniority shall be considered broken and all rights of the person as an employee terminated when he or she * * * is out of the service of the company for one year or more unless engaged in military or naval service of the United States during time of war * * *. Any such employee, however, must be able to pass physical examination before being returned to service.

Resolved. That if, during the life of this agreement, any employees should be called to the service of their country because of war, they shall not lose their seniority rating during their absence, and upon their return, if such employees are physically and mentally fit for employment, the company will offer them work of a like kind that they were engaged in before entering the service.

The above is effective providing the employee returns and makes application for work within 3 months after his discharge from the service.

In the event of a declared or undeclared war in which the United States takes part, an employee who serves his country will return, after the war is over, to his position with no loss of seniority.



Labor Requirements in Defense Industries

One of the most important activities of the Bureau of Labor Statistics, in connection with the national defense program, has been the preparation of estimates of probable future labor requirements in the industries immediately concerned with defense. In these industries a great expansion of employment was contemplated and in many cases is still under way. A knowledge of the probable employment increases, by skills and by regions, became essential to the formulation of various national policies, such as those on worker training and employee housing.

To be of service, such estimates must be made at relatively short intervals, in order to take account of changing Federal expenditures and other changes in the defense program. The Bureau of Labor Statistics therefore has made and is continuing to make periodical estimates of labor requirements for each of the major industries. These are made available currently in special reports and in the *Monthly Labor Review*. As indicative of the character of these reports, the following brief statement, prepared as of early June 1941, may be cited:

An estimated 1,408,600 additional workers will be required in a selected group of defense industries alone by April 1942. This estimate applies to the manufacture of aircraft, vessels, machine tools, ordnance, and other defense items but does not include building construction employment nor the manufacture of items for the Quartermaster Corps. Neither does it include employment that will be necessary for transportation, power, or the extraction and fabrication of many of the raw materials and parts going into defense products.

The estimate relates primarily to employment in the so-called metal-working trades. This is the area in which the most difficult problems of labor supply will be encountered. In arriving at the figure, available data pertaining to the man-hours necessary to manufacture the various items, contracts awarded, certificates of necessity for plant expansion, contemplated new facilities, separate estimates by plant management, etc., were given consideration.

Some 323,900 additional workers will be needed by the shipbuilding industry, 408,400 by aircraft, 291,600 by machine tools and ordnance, and 384,700 by other defense industries. It is estimated that 91,200 professional and subprofessional, 550,900 skilled, 539,000 semiskilled, and 227,500 unskilled workers, will be needed. The greatest single occupational needs will be for skilled machinists and semi-skilled assemblers (erectors) with requirements of 156,500 and 139,500 respectively. It should be kept in mind, however, that an estimate of this kind, based upon current knowledge, is apt to be considerably increased by any change in the emergency program demanding rapidly increased production.



Safety and Health in Defense Industries ¹

Every accident avoided on a defense job means time gained. Observance of proper safeguards against accidents and occupational disease prevents disruption of production schedules, damage to machines and equipment, and wastage of materials, and helps to keep workers fit for the job of maintaining output and quality. The Public Contracts Act, whose provisions govern all Government contracts for supplies in excess of \$10,000, provides that "no part of such contract will be performed * * * in any plants * * * or surroundings or under working conditions which are insanitary or hazardous or dangerous to the health and safety of employeés engaged in the performance of said contract." The difficulties of compliance have been increased by pressure for speed, crowding of machines, rapid expansion of production forces, and reopening disused plant facilities.

No detailed standards of compliance have been attempted but, in order that the objective may be reached substantially and quickly, the Secretary of Labor in 1940 appointed a National Committee on Conservation of Man Power in Industrial Companies composed of 24 persons, including safety experts from private industry, labor repre-

¹ Prepared by the Division of Labor Standards, Department of Labor.

sentatives, and State officials administering safety and health laws. This committee has developed a plan for making available to plants all over the country working on defense contracts an advisory service on accident prevention. Eight regional representatives, 34 State chairmen, and over 350 safety engineers, functioning as special agents, are engaged in the program.

Industrial safety experts, loaned to the committee and serving without compensation (on a \$1-a-year basis), are assigned as safety advisers to plants as soon as contracts are awarded. The contact man assigned visits the plant in question and volunteers to assist the management in organizing a safety program, including setting up shop safety committees and establishing a safety-training program. He offers his services in making an appraisal of physical hazards in the plant, submits recommendations for their correction, and in other ways acts as a continuous adviser to the management for the duration of the contract.

Under its responsibility for the promotion of industrial safety and health the Division of Labor Standards is the clearing house for all activities in connection with the plan. The technical staff of the safety and health section of the Division is responsible for the preparation, under general approval of the National Committee, of procedures, forms, and promotional, educational, and technical material. It is serving as a liaison unit between the regional and local representatives and the Public Contracts Division of the United States Department of Labor. Congress has now appropriated funds for enlarging the program by attaching a group of 30 full-time safety engineers to the Division of Labor Standards, whose work will supplement—but in no sense replace—the work of the volunteer safety experts.

Under the auspices of the committee, a series of special bulletins dealing with plant safety have been published by the Division of Labor Standards and distributed in large quantities to employers and workers engaged on defense work.²



Women in Defense Industries ³

Women are receiving a share of employment in the rapidly increasing defense industries. Visits made by a Women's Bureau agent in October 1940 and again in February 1941 to certain New England munitions and airplane factories showed that in some of these the force of woman workers had increased by about 50 percent, and in some it had doubled. In several plants combined, where some 2,600 women were employed in October, over 4,500 were at work in February. A plant being built for the manufacture of small arms ammunition in Kansas was expected to employ over 2,000 women; an

² See following publications of the Division: Special bulletin No. 1: Safeguarding Manpower for Greater Production; Special bulletin No. 2: The Worker's Safety and National Defense; Special bulletin No. 3: Protecting Plant Manpower, Practical Points on Industrial Sanitation and Hygiene; and Special bulletin No. 4: Conserving Manpower in Defense Industries (describes the plan for pooling safety services).

³ From reports of the United States Women's Bureau. See *Woman Worker*, issues of January 1941, May 1941, July 1941, and November 1941.

Ohio munitions plant would absorb some 2,500 in the early summer of 1941. In Florida, women as well as men were to be considered for positions as aircraft fabric workers. In a Virginia plant to open in the fall of 1941, 1,500 or more women were to be employed in making bags, and sewing them closed after they were loaded with powder, the latter requiring great care to prevent accident and injury.¹

The Bureau of Employment Security records placements in a selected list of some 400 defense occupations. Only about 1 percent of all women's placements are in these defense jobs. However, the placements of women in these were more than three times as great in the early months of 1941 as in the late months of 1940. Of these women's placements, 60 percent were in textile mills, most of them frame spinners, yarn winders, weavers and throwers—long traditional employments for women. Some also were in electrical plants; for example, as radio assemblers or armature winders. A few were placed at less usual jobs, such as work at engine lathes, milling machines, or as core makers, spot welders, or airplane coverers. Women are proficient at inspecting cartridges and polishing small parts for rifles, and in one plant they are reported as assembling, shaping, sharpening, testing, and chrome plating bandage shears for Government use.

In airplane assembly factories, according to an investigation made by the Women's Bureau early in 1941, women constituted only a small fraction of 1 percent of the productive labor force, and their chief work was in sewing jobs; of course, many do the usual types of clerical work in the offices of these plants. In the assembly factories, the labor force of women was being considerably increased as the year progressed. One of the predominating jobs throughout the assembly of an airplane is riveting, along with its concomitant processes of drilling, countersinking, dimpling, and buckling. After short periods of training, women can do a large part, though not all, of this work. Much of the bench work on the subassemblies as well as the inspecting of parts is being done by women in Europe, and the skills required do not differ materially from those done by women in many other industries in this country.

In plants making engines and parts for airplanes, the major job for women is inspecting small parts, and this generally is more than a simple visual task, since blueprints are used and all parts are inspected to fine degrees of tolerance. Some women are at work cleaning metal parts by dipping them in vats containing a soda solution to remove grease; others etch identification numbers on small parts with an electric needle, in a few cases, using a pantograph, in others operating a multiple electric needle—15 needles with a foot control.

In other factories, women perform a variety of bench-work operations, preparing work for processes, cleaning, assembling with the use of hand tools, riveting and arbor presses, small sensitive drills, and automatic screw drivers, hand filing, burring, soldering, electric spot welding, and light grinding. Large proportions are inspecting and a few acting as drafting assistants and production clerks. An official of one of these plants that did not employ women felt that they might be used successfully on many drilling, grinding, tapping, assembly, and inspection operations.

¹ See current issue of the Woman Worker for later data on employment of women in war industries.

Child Conservation and National Defense ¹

A National Citizens' Committee was established by the White House Conference on Children in a Democracy to give national leadership in making effective the recommendations of the Conference. This Committee is of the opinion that the Conference program will promote national unity, and will fortify the democratic institutions of the United States. It declared that child welfare and national security are inseparable,² and that—

The defense of democracy calls for the appreciation of the dignity and worth of the individual, and concern for the young, the helpless, the needy, and the aged. Support of public and private services for children should be sustained as an essential part of a national-defense program.

National effectiveness requires further development of cooperation and self-discipline among our citizens. To destroy our liberties in an effort to protect them would be a tragic blunder. Denial of civil liberties, resort to mob action and other extralegal procedures, and throttling of free discussion of public issues will not advance the cause of democracy at home or abroad.

To be strong, a people must be well nourished. Proper food for mothers and children depends upon factors such as agricultural production and distribution, maintenance of family income, and education in nutrition.

Health service and medical care for all, particularly for mothers, children, and youth, should be maintained and extended.

Educational opportunity adapted to present-day needs should be made available to all children, to youth until they secure employment, and to adults as required for vocational efficiency and for citizenship.

Standards now provided under Federal and State child-labor laws should be preserved, and similar safeguards should be extended to children needing but not now receiving such protection. The national strength does not need the labor of children.

Work opportunities should be made available for all youth who have completed their schooling, with necessary safeguards for their health, education, and welfare.

The gains under Federal and State legislation for the conservation of home life for children in need should be maintained and developed, with more active State and local participation.

We must consider ways in which we may help to safeguard the children of other lands from such misfortunes as hunger and homelessness. We cannot consider the needs of the children of this Nation and ignore the hardships visited upon children elsewhere.

The social gains of the past decade should be maintained in the present critical period. Standards of family living should have an important place in the program of the Advisory Commission to the Council of National Defense. The Advisory Commission should consider ways in which health, educational opportunity, and the social well-being of families and their children may be conserved and advanced as essential elements in a national-defense program.



Working Agreements for Shipbuilding Industry ³

Nation-wide stabilization of the shipbuilding industry for the duration of the emergency was established in 1941 under agreements ratified by shipbuilding firms and unions on the Atlantic and Pacific Coasts and in the Great Lakes and Gulf Coast regions.

Each agreement is for 2 years and was approved by the Office of Production Management, the United States Navy, and the Maritime

¹ From the Monthly Labor Review for September 1940.

² U. S. Children's Bureau. The Follow-up Program of the White House Conference on Children in a Democracy. (Supplement to The Child, Washington, July 1940.)

³ Abstract of articles in Monthly Labor Review for May and October 1941.

Commission, At the end of 1 year wage rates are subject to adjustment on the basis of changes in the cost of living. Machinery is provided to settle grievances, and strikes and lock-outs are banned. Limitation on production is forbidden.

The principal features of the agreement for the *West Coast* are: (1) A basic hourly wage rate of \$1.12 for skilled mechanics; (2) an 8-hour day and 40-hour week (Monday to Friday unless local conditions require other arrangement) with time and one-half pay for work on Saturdays (since intent is 6 days of operation per week) and double pay for overtime on Sundays and holidays; (3) shift work on a specified schedule; (4) prohibition of strikes and lock-outs; (5) provision against limitation of production; (6) machinery for settling disputes; (7) continuation of the agreement for the duration of the national emergency or 2 years, whichever is longer, with provision for review and adjustment of wage scales; and (8) apprentice training.

The agreement for the *Atlantic Coast* shipbuilding industry specifies a basic hourly wage rate of \$1.12 for first-class skilled mechanics, with corresponding percentage changes for other employees. Pay for overtime in excess of the standard 40-hour week is at time and one-half, with double time for work performed on Sundays and holidays.

For *Great Lakes* shipyards a basic hourly wage of \$1.12 is fixed for the standard first-class mechanics, with corresponding percentage increases for all other hourly paid employees. Shift work is permitted with a 40-cent differential for second- and third-shift workers for each full-shift period.

Time and a half is authorized for work in excess of 8 hours in 1 day or 40 hours in 1 week, and for all Saturday work, with double time for Sundays and holidays.

Restrictions are imposed on the use of "premium men." Premiums being paid for special skills above basic mechanic's wage will be maintained, but neither the number of premium men nor the amount of the premium may be increased without official Navy and/or Maritime Commission approval.

In *Gulf Coast* shipyards, the basic wage is \$1.07 an hour for standard skilled mechanics, with "equitable raises" for other employees, a 40-cent additional payment for second and third shifts, time and one-half for overtime, with double time on Sundays and holidays, and double time for all ship repair except large Government conversion jobs.



Characteristics of Shipbuilding Labor ¹

A study of new accessions in shipbuilding labor was made by the Bureau of Labor Statistics in five private shipyards and one United States Navy Yard during the last 3 months of 1940 and January 1941. These yards were all on the Atlantic coast, from Massachusetts to Virginia. The purpose of these visits was to obtain information pertaining to the characteristics of workers hired in skilled occupations since

¹ Abstract of an article prepared by O. R. Mann, Defense Labor Requirements Unit, Bureau of Labor Statistics, in the *Monthly Labor Review* for May 1941.

June 1, 1940, when the tremendous expansion in the shipbuilding industry started. Included in the study were 2,546 workers, or about 85 percent of the skilled accessions in these yards during the period covered.

The employees covered included those hired as shipfitters, machinists, electricians, sheet-metal workers, and welders. Information requested included occupation, date hired, age, marital status, number of dependents, former industry, and former employer. These data were obtained by the Bureau's representatives from the individual applications or from questionnaires filled in directly by the workers.

Former Industrial Affiliation ²

During the months of June to October, inclusive, manufacturing industries as a whole contributed more skilled workers to the shipbuilding industry than any other single group (table 1). Vital defense industries were not drawn on heavily except in October when 18.8 percent of all skilled accessions came from the machine-tool industry and other shipbuilding, both private and Government, with an additional 3.1 percent coming from the aircraft and aircraft-engine industry. It should be kept in mind, however, that although the companies included under "other manufacturing" are not devoting their entire production to defense work, they do have large defense orders and any large-scale drains on their skilled personnel might seriously impair the defense program.

TABLE 1.—Industrial sources of skilled workers hired in selected Atlantic coast shipyards, June 1940 to December 1940

Industrial source	Total		Percent hired in each month						
	Number	Percent	June	July	August	September	October	November	December
Manufacturing industries.....	641	36.6	41.0	33.6	36.7	40.9	35.9	27.6	21.3
Aircraft and aircraft engines.....	20	1.1	.5	.4	.8	.9	3.1	3.4	1.3
Firearms, Government.....	15	.9		1.6	1.1	1.1			
Firearms, private.....	2	.1				.2	.8		
Machine tools.....	51	2.9	2.2	1.2	2.7	3.5	5.5	4.3	1.3
Shipbuilding, Government.....	38	2.2	2.7	2.4	.6	2.3	5.5	2.6	2.7
Shipbuilding, private.....	88	5.0	6.6	4.7	4.2	5.6	7.8	2.6	2.7
Other manufacturing.....	427	24.4	29.0	23.3	27.3	27.3	13.2	14.7	13.3
Nonmanufacturing industries.....	509	29.0	17.5	26.8	30.6	26.8	25.0	45.7	50.7
Other Government (Federal, State, and local).....	71	4.1	4.9	7.5	3.2	3.1	4.7	3.4	2.7
Self-employed.....	142	8.1	6.0	8.7	5.7	9.4	10.9	12.9	4.0
Work Projects Administration.....	61	3.5	4.4	3.2	4.0	4.8	.8		
Unemployed.....	322	18.4	26.2	20.2	19.6	14.4	21.9	10.4	20.0
Not reported.....	6	.3			.2	.6	.8		1.3
Total.....	1,752	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

During November and December, the situation changed somewhat, with nonmanufacturing industries becoming the largest contributors of labor for shipbuilding. Some men were obtained from Work Proj-

² In presenting the former industrial affiliation (table 1), data pertaining to 2 companies were omitted because of lack of comparability. One company, for a number of reasons, was forced to lay off numbers of skilled workers during October and November. The second company was known to follow a policy of not hiring workers from other employers without obtaining their permission. As a result, so large a number of its workers reported that they were previously "unemployed" that the figure was of doubtful accuracy.

ects Administration during the first 5 months of the period covered, but during the last 2 months none were obtained from that source. It is interesting to note that a substantial percentage was recruited from the ranks of the unemployed during each month of the period covered. The percentages vary from month to month, without showing any definite trend, so it seems logical to assume that this source of skilled workers is not yet exhausted.

Geographical Source

Among 2,546 workers included in the study were representatives of 43 States, Venezuela, Honduras, and the Canal Zone. Over three-fourths (76.8 percent) came from the six States in which the shipyards studied were located, i. e., Massachusetts, Connecticut, New Jersey, Pennsylvania, Maryland, and Virginia. Massachusetts contributed by far the most—nearly one-third (31.2 percent)—with Maryland, Pennsylvania, and Virginia following in the order named.

There was no indication at the time of the study that the shipyards were reaching farther afield for their skilled workers since the six States mentioned above furnished 78.5 percent of all workers in June and 77.0 percent in December, the last full month covered by the report.

Age of Shipyard Workers

A distribution of the 2,546 skilled workers by age group (table 2), shows that more than one-fourth (28.3 percent) were under 30 years of age at the time hired. At the other extreme, there were one-fourth (24.7 percent) who were 45 years old and over. A total of 45.9 percent of all new workers were under 36 years.

TABLE 2.—Ages of skilled workers hired in selected Atlantic coast shipyards, June 1940 to January 1941

Month in which hired	Age group						All groups
	Under 30 years	30 and under 36 years	36 and under 40 years	40 and under 45 years	45 years and over	Age not reported	
June.....	29.8	12.1	11.3	18.2	26.0	2.6	100.0
July.....	27.2	18.7	11.3	16.4	24.4	2.0	100.0
August.....	25.0	16.5	12.0	17.3	27.4	1.8	100.0
September.....	33.7	16.7	10.9	14.8	23.1	.8	100.0
October.....	31.7	20.3	13.1	11.8	18.6	4.0	100.0
November.....	22.7	22.2	9.2	17.3	24.9	3.7	100.0
December.....	23.2	20.0	14.2	13.5	27.2	1.9	100.0
January.....	28.1	17.5	14.0	12.3	28.1	100.0
Total.....	28.3	17.6	11.6	15.8	24.7	2.0	100.0

Employment Services

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Organization of United States Employment Service

The State employment services were coordinated under a national system by the Wagner-Peyser Act passed in 1933. Prior to that time the Federal Employment Service had operated offices throughout the country independently of the State employment services. States desiring to receive benefits under the act were required to accept the provisions of the national act and designate a State agency with the necessary powers to enable it to fulfill the basic requirements of the law and to meet the operating standards of the United States Employment Service. All of the States and the Territories of Alaska and Hawaii had become affiliated with the Federal service before the end of 1937. A special placement service for veterans under the United States Employment Service was in operation in the 48 States and in the District of Columbia by June 30, 1935.

Under the Reorganization Act of April 3, 1939, and the President's Reorganization Plan No. 1, the United States Employment Service was transferred from the United States Department of Labor to the Social Security Board. With the beginning of the fiscal year 1939-40, Federal functions pertaining to the public employment services were consolidated with the unemployment-compensation functions of the Social Security Board. The combined functions of the United States Employment Service and of the former Bureau of Unemployment Compensation are now administered by the Bureau of Employment Security. Under the present system the employment offices maintained by the States with the aid of matching Federal funds stand ready to serve, without charge, any worker or employer who consults them. At the end of June 1940 nearly 1,500 employment offices were in operation in localities throughout the United States, and itinerant service was provided at more than 3,000 additional points.



Operations of United States Employment Service

During the fiscal year ended June 30, 1940, the employment offices received 16,200,000 applications for jobs and made more than 3,500,000 complete placements of which 3,000,000 were in private employment and 541,000 in public employment, representing an increase of 34.6 percent in private placements and a decrease of 40.4 percent in public placements as compared with the preceding fiscal year. In addition, the employment offices made 1,100,000 supplementary placements, that is, placements in which the local office was responsible for the job but did not perform all the steps in the placement. Most of these supplementary placements were for seasonal work in agriculture. On June 30, 1940, the active files of local employment offices included 5,700,000 registrants, a decline of half a million from a year earlier.

The following table gives a summary of the reports of State agencies showing complete and supplementary placements, total applications, and the number of persons on the active file, by months, from July 1940 to December 1941.

Placement activities of public employment offices, by months, July 1940 to December 1941

Month and year	Complete placements			Supplemental placements	Total applications	Active file	
	Total	Private					Public
		Regular	Temporary				
<i>1940</i>							
July.....	308, 114	129, 035	130, 501	48, 578	120, 065	1, 400, 951	5, 564, 630
August.....	330, 708	147, 288	133, 011	50, 409	167, 102	1, 273, 803	5, 211, 688
September.....	352, 578	162, 396	142, 849	47, 333	275, 342	1, 206, 808	4, 913, 505
October.....	407, 484	171, 702	167, 641	68, 141	365, 679	1, 391, 243	4, 620, 862
November.....	364, 798	154, 451	140, 326	70, 021	188, 394	1, 333, 591	4, 568, 415
December.....	377, 697	136, 431	161, 292	79, 974	89, 165	1, 494, 985	4, 759, 836
<i>1941</i>							
January.....	363, 162	243, 398	119, 764	-----	92, 523	1, 826, 414	5, 093, 050
February.....	344, 576	238, 379	106, 197	-----	67, 132	1, 371, 429	5, 095, 429
March.....	376, 302	245, 032	131, 270	-----	53, 124	1, 027, 551	5, 166, 491
April.....	443, 186	266, 747	176, 439	-----	45, 817	1, 825, 010	5, 096, 941
May.....	500, 121	295, 147	204, 974	-----	121, 815	1, 538, 974	5, 154, 392
June.....	470, 962	289, 565	181, 397	-----	153, 322	1, 023, 180	5, 125, 871
July.....	499, 065	323, 028	176, 037	-----	131, 022	1, 597, 299	4, 982, 430
August.....	509, 587	334, 315	175, 272	-----	161, 727	1, 445, 836	4, 699, 020
September.....	545, 676	348, 281	197, 395	-----	562, 020	1, 396, 285	4, 555, 860
October.....	539, 001	341, 757	197, 244	-----	335, 570	1, 487, 603	4, 241, 913
November.....	406, 789	248, 695	158, 094	-----	176, 058	1, 327, 116	4, 324, 521
December.....	430, 822	257, 418	173, 404	-----	62, 553	1, 616, 947	4, 413, 223



National Employment Clearance System ¹

The United States Employment Service of the Social Security Board put into operation on October 28, 1940, a national system for clearance of employers' labor needs and interstate transfer of workers in some 500 occupations which are essential to defense industries.² This system supplements the existing interstate clearance machinery maintained cooperatively by the various State employment services.

The national labor-clearance machinery is designed to minimize unplanned and unnecessary movement of workers from one area to another, following rumors of jobs. It will also serve to speed up the interstate transfer of workers to vital defense jobs, where it is required, without depleting any locality of workers who will be needed there in the near future.

Employers' orders for defense workers which cannot be filled by the local employment offices within any given State are referred by the State agencies to one of a network of 13 regional clearance offices covering the entire country. Provision is also made for inter-regional and Nation-wide clearance of workers, when necessary, with the United States Employment Service at Washington as the focal point.

The regional clearance offices do not themselves accept applications from job seekers nor carry out placements. These activities will be

¹ From the Monthly Labor Review, December 1940.

² Federal Security Agency. Social Security Board. Press release, Washington, October 28, 1940.

carried on as usual by the local State-operated employment offices. The State services will continue to handle interstate clearance of non-defense workers, although they may use the new national machinery for this purpose if they wish. The chief function of the regional clearance offices is to route orders for defense workers which cannot be filled within a State to the localities where such labor may be available.

Special emphasis has been placed on filling jobs with available labor from the local community wherever possible. To this end the policy of the National Defense Advisory Commission, in connection with the award of contracts for production of defense material, is to urge employers not to recruit labor outside their locality until the local State employment office has had an opportunity to meet their requirements within the community or through clearance with other employment offices.

Each of the regional clearance offices will have at its disposal information regarding the number and type of key workers in each area who are registered with State employment services as available for employment in defense industries. In addition, the United States Employment Service will have advance information as to potential labor shortages in any area or occupation through reports on the kind of jobs which State agencies have had difficulty in filling locally. The Bureau will, therefore, be in a position to speed up the recruiting of defense workers and at the same time to make certain that workers who are, or will soon be, needed locally for defense work in a given area, are not transferred outside of the locality.

The 13 regional clearance offices established by the United States Employment Service are situated in Boston, New York City, Philadelphia, District of Columbia, Cleveland, Chicago, Birmingham, Minneapolis, Kansas City, San Francisco, Seattle, Denver, and Austin (Tex.).



Junior-Placement Services

In 1937 and 1938, the Children's Bureau made a study of junior-placement services in the United States, for the purpose of determining the extent to which special services of this type had been organized throughout the country and also of reporting on the techniques developed by placement workers to meet the needs of junior applicants.¹

Junior-placement programs sufficiently specialized to require the full-time services of at least one junior-placement worker were operating in only 66 communities in 1936, according to the results of a questionnaire distributed by the Children's Bureau to employment offices and school systems throughout the country.² Two-thirds of these communities were cities with a population of 100,000 or over, but even so, young job seekers were offered special placement assistance in less than half of the 93 cities of this size in the country. In smaller communities junior-placement services were much more infrequent.

¹ U. S. Children's Bureau Pub. No. 256; Junior Placement. Washington, 1940.

² After 1936, public employment offices throughout the country considerably expanded their special programs for junior applicants, with the assistance of the National Youth Administration. A survey made by the Employment Service Division of the Bureau of Employment Security showed that on October 1, 1939, there were 177 cities with public employment services having on their staffs full-time junior-placement counselors.

To study the problems met by junior counselors and the methods and procedures found effective in serving young applicants, visits were made to junior-placement services in 12 cities.³ The following summary reviews very briefly the findings of these visits.

The most characteristic feature of junior-placement procedure was found to be the interview between applicant and counselor in which the applicant's job interests and qualifications are discussed and evaluated. This interview and subsequent ones not only provide information needed for purposes of registration but also are the means of counseling the young person, who requires help in understanding his own interests and abilities, information on occupations likely to be available in the community, and assistance in making vocational plans.

The information obtained through interviews was often supplemented by the use of tests and other records indicative of the applicant's abilities and background. Several of the junior offices visited had available testing services under the supervision of a trained psychologist and were therefore able to use tests to measure aptitudes and abilities; other offices confined their programs to tests for proficiency in typing and stenography. Among the types of records consulted were proof of age, school record, employer's reference, and health record.

In most of the offices visited, junior-placement counselors not only handled the registration and counseling of young applicants but also their referral to employers. However, a few of the junior services operating as units in public employment centers specialized in registration and counseling, placement of the junior applicants being made by the units handling adult placements.

In order to find job opportunities for the young registrants, the junior offices found it necessary to determine which employers in the community had job opportunities for inexperienced young persons and to interest these employers in utilizing young workers. Most junior counselors therefore spent a definite amount of time at regular intervals in visiting factories and other places of business.

The selection of a worker for referral to an employer, in response to an order, calls for careful judgment by the counselor of the kind of worker needed and of the applicant's qualifications for and probable interest in the job. When making a referral, the junior-placement counselors in the offices visited did more to prepare the selected applicant for his interview with the employer than is usually done by placement offices serving adults. The counselors customarily discussed with each candidate the kind of work offered and the types of questions the employer was likely to ask and gave him advice on how to dress for and conduct himself in a business interview.

Since the assistance given to young applicants by a well-functioning junior office should not cease with placement, many of the offices remained open outside of usual working hours so that young workers who had been placed on jobs could conveniently call for follow-up consultation. Consultations with the employer as to his satisfaction with the placement was also part of the follow-up procedure but was secondary in importance to follow-up through the applicant.

³ Visits were made as follows: Fall and winter of 1937, Atlantic City (N. J.), Concord (N. H.), District of Columbia, Durham (N. C.), Essex County (N. J.), New York City, Rochester (N. Y.), Rockland County, N. Y.; winter and early spring of 1938, Cedar Rapids (Iowa), Cincinnati (Ohio), Detroit (Mich.), Philadelphia (Pa.).

The junior-placement offices frequently considered it part of their function to assist other youth-serving agencies. Thus, some offices did considerable work in helping the schools to set up vocational-guidance or vocational-training programs, and many kept in close touch with the agencies enforcing the labor laws and with officials issuing employment certificates. It was the policy of most of the offices visited to refrain from placing young applicants on jobs offering substandard wages or working conditions, and some offices reported to the proper authorities all conditions which appeared to be in violation of legal labor standards.

The study clearly indicated that the key to the effectiveness of junior-placement activities is the counselor himself. It is therefore of vital importance in the development of junior-placement services to maintain personnel standards at a professional level with respect both to qualifications and to salary levels. Furthermore, full realization of the possibilities in junior-placement services depends upon provision of a staff large enough to handle adequately the work pressing to be done. Quality of service is seriously sacrificed when efforts to give some service to all comers result in insufficient time for counseling and for contact with employers and community agencies.



Toledo Plan for Placing Veterans ¹

For some time the Veterans' Placement Service of the United States Bureau of Employment Security has stressed the need for well-planned collective activities to bring about the placement of unemployed workers over 40 years of age, especially veterans. For several years past, the national veterans' organizations have also made the placement of veterans and older workers an objective ranking next to their first objective—rehabilitation.

In view of these facts, the staff of the employment security center at Toledo instituted a campaign to arouse local interest in the unemployment problem of veterans and other older workers, and at the same time to promote the use by employers of the public employment service.²

An intensive reregistration of all veterans in both the active and the inactive files was conducted. Veteran groups were counseled to refer to the office of the Toledo employment security center competent veterans who were looking for jobs but had never been registered with the center.

After an inventory list had been completed, including the names not only of unemployed veterans but also of other registered job seekers over 40, it was made available in folder form and distributed by job campaigners to employers for their consideration during the year. This pamphlet was called Experience for Sale, and included a part of a sales talk which was prepared in behalf of older workers. A supplementary sales talk was also prepared, emphasizing outstanding points in the report of the Committee of Employment Problems of Older Workers, appointed by the United States Secretary of Labor.

¹ From the Monthly Labor Review, November 1940.

² U. S. Bureau of Employment Security, Employment Security Review, September 1940.

The employment office compiled a list of employers who, it was thought after a study of their organization and products, would be in a position to utilize middle-aged workers. The various groups of veterans' organizations were circularized, as were also other fraternal and civic groups interested in jobless older workers, requesting an opportunity to explain the employment scheme and secure their cooperation.

Over 1,000 folders were given to veterans who were either employers or employed, the latter group being instructed to hand the folders to their immediate supervisors. At the same period the regular bulletin of the Toledo employment center, mailed each month to employers, emphasized reasons for taking on older workers. The center's regular radio broadcast, "The Opportunity Program," also featured middle-aged workers.

Increase of Placements Among Middle-Aged

As a result of this drive, the local permanent placements of veterans and others in the 40-plus age group in 1940 were 11 percent above the record for 1939. These represent merely the immediate job placements effected. Experience in service-employer relations has indicated that even more important results are shown after the close of a campaign, and that the veteran and his organizations have a better understanding of employment-service facilities in referring applicants for special types of jobs.

The success of this drive had favorable effects in other communities in Ohio as well as in other States. A summary of the program was sent to all veterans' placement representatives in the country, suggesting that at least one city in each State try out the scheme wherever possible. The scheme is especially adapted for use in increasing placements for the large numbers of registered Negro workers. The Toledo center included the use of the same folder method in its reemployment activities for Negroes, and met with considerable success.



Fees of Private Employment Agencies in California, 1940 ¹

Since 1923 every California fee-charging employment agency has been obliged by law to file with the State division of labor statistics and law enforcement a schedule of fees to be charged. In 1939 over \$830,000 was paid to 204 private employment agencies in the State by job seekers in order to secure temporary and permanent employment in the teaching, nursing, commercial, domestic, hotel and restaurant, and general industrial fields. This amount does not cover the fees aggregating about \$5,000,000 paid to theatrical and motion-picture employment offices or fees collected by agricultural contractors supplying workers for farm operations.²

¹ From the Monthly Labor Review for June 1941.

² California. Department of Industrial Relations. Division of Labor Statistics and Law Enforcement. Fees Charged by Private Employment Agencies in California, by M. I. Gershenson, principal statistician. San Francisco, 1940.

California fee-charging employment agencies are also required by law to be licensed by the State division of labor statistics and law enforcement and to be bonded by reliable bonding companies.

The premises on which the employment agency is located must be approved by the State commissioner of labor and such agency may not operate "in connection with lodging houses, restaurants, or pool rooms, or in connection with buildings or premises where intoxicating liquors are sold or consumed." The contract and receipt forms of the agencies must be approved by the labor commissioner, and the agencies must also keep records of applicants and jobs obtained as provided by the State labor code. Furthermore, a copy of the schedule of fees which is filed with the labor commissioner must be certified by that official and posted in a conspicuous place in each room frequented by job applicants.

Although the schedule of fees must not be posted before it is certified by the commissioner, the law does not provide for the regulation of the amount of the fees agencies propose to ask. However, no fees exceeding those posted may be charged.

Permanent Placements

The following table shows the "most usual" fees charged by the California private employment agencies in 1940. Percentages are translated into dollars and cents. The "most usual" rate is the modal rate, that is, the rate charged by the largest single number of agencies in a given classification and in a given locality.

It is obvious from this table that for positions with the same salary, teachers are charged the most substantial fees. For positions of \$125 per month they are most likely to pay \$150 in San Francisco, \$75 in Los Angeles, and from \$41.67 to \$105 in the remainder of the State.

Most usual fees charged for permanent placements at specified salaries, by field of employment and location of agency, California, 1940

Field of employment	Location of agency	Monthly salary of—			
		\$50	\$80	\$125	\$200
Commercial ¹	San Francisco.....	\$15. 00	\$24. 00	\$37. 50	\$60. 00
	Los Angeles.....	{ ² 12. 50	26. 67	41. 67	100. 00
	Remainder of State.....	{ ² 16. 67 12. 50	20. 00	41. 67	80. 00
Domestic, hotel and restaurant.....	San Francisco.....	5. 00	8. 00	12. 50	20. 00
	Los Angeles ²	{ 5. 00	8. 00	12. 50	20. 00
	Remainder of State.....	{ 7. 50 5. 00	12. 00	18. 75	30. 00
			8. 00	12. 50	20. 00
Nurses.....	San Francisco.....	15. 00	24. 00	37. 50	60. 00
	Los Angeles.....	12. 50	26. 67	41. 67	100. 00
	Remainder of State.....	5. 00	8. 00	12. 50	20. 00
Teachers ³	San Francisco.....	60. 00	96. 00	150. 00	240. 00
	Los Angeles.....	30. 00	48. 00	75. 00	120. 00
	Remainder of State.....	(⁴)	(⁴)	(⁴)	(⁴)
Miscellaneous.....	San Francisco.....	5. 00	8. 00	12. 50	20. 00
	Los Angeles ²	{ 5. 00	8. 00	12. 50	20. 00
	Remainder of State.....	{ 7. 50 5. 00	12. 00	18. 75	30. 00
			8. 00	12. 50	20. 00

¹ In cases where the schedules quoted two or more rates depending upon the time of payment, the rate charged for payment in 30 days was used.

² Two rates tend to predominate.

³ The fees, quoted as a percentage of a yearly salary on the schedule, are converted to a percentage of 1 month's salary for a 12-month year.

⁴ There is no "most usual fee;" each agency schedules a different rate.

Temporary Placements

In over four-fifths of the 224 schedules analyzed which include a separate rate for temporary placements, the fee fixed is 10 percent of the total earnings in the temporary employment. A few commercial agencies ask higher rates and also some hotel and restaurant, domestic, and nurses' agencies. However, the number of exceptions to the 10-percent fee is small.

Most of the schedules stipulate that the rate for a temporary job shall not exceed that for a permanent job paying the same salary.



Limitations of Fees of Private Employment Agencies

The United States Supreme Court in a unanimous decision upheld a Nebraska law limiting the fees that may be charged by private employment agencies. The Court by this action overruled a former decision, rendered in 1928, which held that a State may not legally exercise such power (*Ribnik v. McBride*, 277 U. S. 350).

In the Nebraska case the State secretary of labor had withheld a license from a private employment agency which refused to limit the fees as prescribed by statute. On the basis of the former decision, the employment agency challenged the constitutionality of the law. Mr. Justice Douglas in delivering the opinion of the Court pointed out that the "drift away" from the Ribnik case has been so great in recent years "that it can no longer be deemed a controlling authority." Again, the Court referred to a number of recent cases upholding price-fixing schemes, and declared that "they represent in large measure a basic departure from the philosophy and approach of the majority" in the case decided more than a decade ago.

Finally, the Supreme Court observed that the employment agency could not base the invalidation of the Nebraska law on the "notions of public policy" contained in earlier decisions, for the reason that "since they do not find expression in the Constitution, we cannot give them continuing vitality as standards by which the constitutionality of the economic and social programs of the States is to be determined." The Court, therefore, reversed the decision of the Nebraska Supreme Court and held that the State law was not violative of the fourteenth amendment to the Constitution.¹

¹ *Olsen v. State of Nebraska* (61 Sup. Ct. 862).

Employment and Pay-Roll Trends

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Available Statistics on Employment and Unemployment

Unemployment

Beginning with April 1940 monthly estimates of unemployment have been made by the Work Projects Administration, together with monthly estimates of total employment and total labor force. These estimates of unemployment are the only ones compiled by a governmental agency. (For details see article on WPA Estimates of Employment and Unemployment, p. 183.) Estimates of unemployment have been made for several years by various private organizations such as the National Industrial Conference Board, the American Federation of Labor, and the Congress of Industrial Organizations, all utilizing the "residual" method which involves the assumption of a steadily increasing and nonseasonal labor force.

Employment

Within the past several years, there has been a substantial improvement in source material relative to the field of employment statistics. To the various industrial and business censuses which have always served as bench marks for series based on sampling techniques have been added employers' reports to the Social Security Board under the unemployment-compensation and old-age insurance systems. These data are not available currently each month but they serve as valuable checks on current information published by the Bureau of Labor Statistics. In addition, employment data reported to the Social Security Board represent an important source of information concerning groups of employees not surveyed by other agencies, particularly those in certain transportation and service industries. Recent census data relative to State and local government employment have also proven to be of much value.

Each month statistics concerning the trend of employment and pay rolls for the United States are compiled by Federal agencies for the following groups of employees:

1. Private employment:

(a) Total nonagricultural employment: Estimates are compiled by the Bureau of Labor Statistics covering nonagricultural employment. In addition estimates are made for employees in nonagricultural establishments (which excludes proprietors, self-employed persons, casual workers, and domestics) in manufacturing, mining and related industries, construction, transportation and public utilities, trade and related establishments, civil employees of Federal, State, and local government establishments, employees in financial, service, and miscellaneous establishments, and military and naval personnel in the United States. Estimates are available by months from 1929. Estimates by States for employment in nonagricultural establishments are also available by months from July 1937.

Total employment and total labor force: As noted before, monthly estimates of total employment and total labor force, as well as estimates of unemployment, are made by the Work Projects Administration.

(b) Manufacturing industries: Data are compiled by the Bureau of Labor Statistics for 157 industries. Indexes for the majority of the industries commence with 1923, although indexes for several industries, for groups, and for the total are available back to 1919; for 67 industries, the indexes begin with January 1939. Indexes of factory employment in metropolitan areas begin with January 1937.

(c) Mining, public utility, trade, and service industries: Data are compiled by the Bureau of Labor Statistics for 16 industrial groups, i. e., anthracite mining, bituminous-coal mining, metaliferous mining, quarrying and nonmetallic mining, crude-petroleum production, telephone and telegraph, electric light and power (formerly electric light and power and manufactured gas), street railways and buses (formerly electric-railroad and motorbus operation and maintenance), wholesale trade, retail trade, hotels, laundries, dyeing and cleaning, brokerage, and insurance. Indexes for these groups, where available, begin with 1929, except for laundries and dyeing and cleaning which begin with 1931.

(d) Building construction: Data have been compiled by the Bureau of Labor Statistics since 1931.

(e) Agriculture: Monthly and annual estimates of employment and annual estimates of pay rolls ("the cost of hired farm labor") are made by the Agricultural Marketing Service of the United States Department of Agriculture.

(f) Steam railroads: Data on employment are compiled by the Interstate Commerce Commission.

2. Public employment:

With the assistance of the United States Civil Service Commission the Bureau of Labor Statistics compiles monthly reports giving the number of employees in the Federal Service. These figures include persons in the executive, legislative, and judicial departments, and in the military services of the United States Government. The executive service figures include all force-account and supervisory and technical personnel working directly for the Federal Government in United States navy yards, in manufacturing arsenals, and on construction projects, as well as civilian employment in various Federal agencies.

In addition to employment in the regular Federal services, the Bureau receives separate reports on employment on construction projects financed by regular Federal appropriations, by the Public Works Administration, and by the Reconstruction Finance Corporation; and on housing projects of the United States Housing Authority. Separate reports are also secured for persons employed by public agencies operating primarily for the relief of unemployment. Monthly employment figures are also published for the construction and maintenance of roads which are financed wholly from State and local funds.

Trend of Employment and Pay Rolls in Private Industry

As indicated before, the compilation of current data on employment and pay-roll trends in private industry is, with the exception of railroad and farm labor, chiefly a function of the Bureau of Labor Statistics. In part, the necessary reports are secured direct from the establishments concerned; in part, various State agencies cooperate with the Bureau in securing the data for the particular States. Such reports are secured by State departments of labor or similar agencies in Arkansas, California, Delaware, Illinois, Iowa, Indiana, Kansas, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Oregon, Oklahoma, Pennsylvania, Rhode Island, and Wisconsin, and by the Federal Reserve Bank of Philadelphia and the University of Texas. Most of the above agencies cooperate with the United States Bureau of Labor Statistics in collecting employment and pay-roll data. The exceptions are the State bureaus of Iowa, Ohio, Oklahoma, Oregon, and Rhode Island. In addition to the agencies listed above, employment and pay-roll data are also collected each month by several trade associations as well as by local chambers of commerce.

Methods and coverage of Bureau of Labor Statistics reports.—It is impracticable for the Bureau of Labor Statistics to obtain reports from all establishments in any given industry. The sampling technique and the methods used in collecting and compiling these data are therefore matters of importance. A brief outline of current procedure follows.

Employment and pay-roll data are obtained from representative establishments in all sections of the country. Each month forms are sent to reporting establishments relative to the pay-roll period ending nearest the fifteenth day of the month. The form asks for information concerning the firm's principal products or the kind of business in which it is engaged, the dates covered by the pay period reported, the total number of persons who worked any part of the pay period, both full- and part-time, the amount of pay roll, and the total number of man-hours worked by the employees reported. The reporting establishment is also requested to state the reason for any marked increase or decrease in total pay roll or number of employees and to supply information relative to any change in the rate of wages. If the pay-roll total covers a period longer than one week, an equivalent weekly pay roll is computed. If necessary, forms are returned to senders for correction or for additional data.

It has been the Bureau's aim to obtain as complete a coverage as possible by industry and by areas. The geographical distribution of the sample in the several industries is maintained by endeavoring to secure a coverage of at least 50 percent of the employees in manufacturing industries in each State, as recorded by the Census of Manufactures. A like coverage and distribution by States has also been the aim in nonmanufacturing industries; this, however, has not as yet been achieved in all industries owing to the difficulty encountered in sampling the smaller lines, such as retail trade. Efforts have

also been made to secure in each geographic division a sufficient number of both large and small establishments in order that samples may be representative as to size. Moreover, where there are two or more important branches in an industry, the ratio of representation in each branch is also maintained.

The employment and pay-roll indexes of the current month for each industry are constructed from relatives based on the percentage changes and on the indexes of the preceding month. For the computation of percentages of change over the year interval, indexes of the current month and of the same month in the preceding year are used.

Index numbers of employment and pay rolls are published for each of 90 manufacturing industries, for each of the 14 major groups and 2 subgroups, for combinations of these groups into durable and nondurable goods divisions, and for all manufacturing industries combined. Recently the Bureau has constructed indexes of employment and pay rolls for 67 additional manufacturing industries on the basis of the 1939 average as 100. Indexes of employment and pay rolls for these industries do not appear in the accompanying tables but are available in mimeographed form for 55 of them.

At present the indexes for the nonmanufacturing industries are on the 1929 base. Those for the 90 manufacturing industries are on the 1923-25 base. Coincident with the biennial adjustment of the 90 manufacturing industries to the 1939 Census of Manufactures, the index base period will be shifted from 1923-25 to the 1935-39 period. The 67 additional manufacturing industries will be incorporated into the basic series when this adjustment is made. Indexes are also constructed for each of the nonmanufacturing groups surveyed with the exception of brokerage, insurance, and building construction.

Employment and Pay Rolls in Manufacturing Industries

The Bureau of Labor Statistics survey of factory employment and pay rolls in December 1941 covered 34,147 establishments in the 157 manufacturing industries for which data are compiled. These establishments employed in that month 7,818,618 wage earners, whose combined weekly earnings totaled \$261,759,040. The reporting establishments employed slightly more than 70 percent of all factory wage earners.

The group and composite indexes are weighted by the relative importance of the component industries and industry groups as shown by the Census of Manufactures. The indexes are subject to some statistical bias over an extended period of time, because sampling technique does not entirely allow for new establishments coming into the industries or for unusual changes in the firms not covered in the survey. To eliminate this bias the indexes are adjusted to conform to the trends and levels shown in the Census of Manufactures biennial reports of wage earners and wages, which represent approximately complete coverage.

Table 1 shows general indexes of factory employment and pay rolls by years from 1919 to 1940, and by months from January 1919 to December 1941, and indexes of employment and pay rolls in the durable and nondurable goods groups by years from 1923 to 1940, and

by months from January 1923 to December 1941. These indexes have been adjusted to Census of Manufactures biennial reports through 1939. The adjustment to the 1939 census was made on preliminary figures and, therefore, indexes from 1937 to date are subject to further revision when the final census figures for 1939 become available.

TABLE 1.—Indexes of employment and pay rolls in manufacturing industries, by months¹

ALL MANUFACTURING—JANUARY 1919 TO DECEMBER 1941													
[1923-25=100]													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Average
Indexes of employment													
1919...	104.5	101.2	101.7	101.9	102.6	103.9	106.6	109.3	111.3	110.9	112.1	113.9	106.7
1920...	114.3	113.3	115.6	114.0	111.1	110.1	107.5	107.4	106.1	102.1	95.6	88.0	107.1
1921...	79.5	81.7	82.9	82.3	82.0	81.2	79.7	81.1	83.0	83.7	83.7	82.7	82.0
1922...	82.4	84.5	85.8	85.7	87.9	89.6	90.5	93.1	95.1	96.6	98.0	99.1	90.7
1923...	100.2	102.4	104.6	105.1	105.2	105.7	104.6	104.8	105.3	104.0	102.8	101.1	103.8
1924...	100.1	101.7	101.9	100.1	96.8	93.8	90.6	92.0	94.2	95.0	94.5	96.1	96.4
1925...	96.6	98.3	99.2	99.1	98.6	98.4	98.3	100.0	101.9	102.6	102.2	101.8	99.8
1926...	101.0	102.0	102.5	101.8	100.8	100.8	99.7	101.8	104.0	103.6	101.6	100.3	101.7
1927...	98.6	100.2	100.9	100.3	99.6	99.7	98.6	99.9	101.2	100.2	98.0	96.5	99.5
1928...	95.3	97.2	98.2	97.8	97.8	98.5	98.4	101.1	103.3	103.5	102.6	102.1	99.7
1929...	101.7	104.1	105.4	106.7	106.5	106.8	107.3	109.2	110.3	109.0	104.6	100.7	106.0
1930...	98.2	98.3	97.9	97.3	95.6	93.6	90.4	89.7	90.7	88.7	85.4	82.9	92.4
1931...	80.1	80.8	81.2	81.2	80.6	78.8	77.7	77.9	78.3	75.5	72.7	72.0	78.1
1932...	70.0	71.2	70.1	67.8	65.2	63.2	61.0	62.7	66.1	67.2	68.3	65.1	68.3
1933...	63.3	64.7	62.3	63.9	66.8	71.6	76.2	81.3	85.0	84.6	81.2	79.5	73.4
1934...	73.8	83.7	87.2	88.8	89.0	87.8	86.3	87.4	83.5	85.9	84.3	85.6	85.7
1935...	86.7	89.6	91.0	91.2	89.9	88.3	88.7	91.7	93.9	95.2	94.6	84.2	91.3
1936...	92.3	92.7	93.9	95.5	96.4	97.0	98.4	101.2	103.8	104.9	104.9	106.4	99.0
1937...	104.7	107.6	110.1	111.3	111.5	110.3	110.8	112.2	112.2	110.3	104.2	97.7	108.6
1938...	91.0	91.6	91.2	89.3	87.0	85.4	85.9	90.2	93.6	94.2	95.3	96.2	90.9
1939...	94.5	96.1	97.0	96.9	95.9	96.4	96.6	99.5	103.7	107.3	107.5	107.8	99.9
1940...	105.0	105.0	104.4	103.2	102.5	103.1	103.2	107.4	111.4	113.8	114.7	116.2	107.5
1941...	115.5	117.8	119.9	122.6	124.9	127.9	130.6	133.1	135.2	135.4	134.8	134.3	127.7
Indexes of pay rolls													
1919...	93.8	89.3	90.0	89.2	90.1	92.7	95.6	101.7	106.3	103.6	107.8	115.4	98.0
1920...	119.1	117.4	125.4	122.3	123.0	124.4	120.0	120.6	118.9	114.4	105.0	95.5	117.2
1921...	80.6	80.1	81.0	78.8	77.4	75.6	71.6	73.6	73.3	71.9	70.9	72.7	75.6
1922...	69.6	72.5	74.4	73.6	77.0	80.0	80.2	84.1	87.0	88.7	92.2	94.5	81.2
1923...	93.9	97.8	102.6	103.8	107.3	107.2	102.9	103.1	103.8	105.9	103.9	102.7	102.9
1924...	98.9	104.5	104.5	102.0	97.6	91.9	85.3	89.1	92.4	94.6	93.1	97.6	96.0
1925...	96.0	101.0	102.8	100.4	101.4	99.2	97.5	100.1	99.4	105.3	105.1	105.5	101.1
1926...	101.6	105.7	107.2	104.9	103.5	103.7	99.4	103.8	105.1	108.0	104.3	103.6	104.2
1927...	98.6	104.8	106.6	105.0	104.8	103.2	99.1	102.5	102.1	102.7	98.9	100.0	102.4
1928...	96.6	102.0	103.5	101.3	102.3	102.7	100.2	104.6	106.2	109.5	106.2	106.9	103.5
1929...	103.8	110.8	113.0	114.1	114.3	112.7	108.6	113.5	114.4	113.7	104.9	101.2	110.4
1930...	96.5	99.6	99.7	98.5	96.1	92.9	85.0	83.8	84.8	82.9	77.5	73.4	89.4
1931...	70.3	74.4	75.9	74.7	73.6	69.9	66.6	66.4	63.8	61.8	58.3	57.8	67.8
1932...	54.0	55.4	53.6	49.6	46.8	43.7	40.4	41.4	44.0	45.8	43.6	42.4	46.7
1933...	40.3	41.4	38.3	40.4	44.4	49.1	52.7	58.6	61.3	61.1	57.3	56.5	50.1
1934...	56.1	62.9	67.2	69.6	69.7	67.4	62.8	65.1	60.8	64.0	62.5	66.2	64.5
1935...	67.5	72.6	74.4	74.6	71.8	69.8	69.1	74.0	76.8	79.5	78.6	80.5	74.1
1936...	76.9	76.6	80.5	82.6	84.0	84.2	83.5	87.3	87.2	92.9	94.4	99.2	85.8
1937...	94.6	100.1	105.9	109.7	110.1	107.6	105.2	108.7	104.9	104.9	93.3	84.6	102.5
1938...	75.4	77.7	77.8	75.2	73.6	71.6	71.7	77.9	82.3	85.0	85.3	88.1	78.5
1939...	84.7	87.1	88.8	86.8	86.3	87.9	85.8	91.2	95.4	103.2	103.2	105.4	92.2
1940...	99.8	99.3	98.8	97.9	97.8	99.5	98.2	105.5	111.6	116.2	116.4	122.4	105.4
1941...	120.7	126.8	131.2	134.7	144.1	152.2	152.7	158.1	162.16	167.0	165.4	170.2	148.8

¹ Revised series, adjusted to preliminary 1939 census figures.

TABLE 1.—Indexes of employment and pay rolls in manufacturing industries, by months—Continued

DURABLE-GOODS MANUFACTURE—JANUARY 1923 TO DECEMBER 1941													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Average
Indexes of employment													
1923...	97.7	101.0	103.6	105.6	106.6	107.4	106.1	105.8	105.4	104.6	103.7	101.6	104.1
1924...	100.6	102.6	103.8	103.4	99.3	94.8	90.7	90.6	91.4	92.8	92.5	94.3	96.4
1925...	95.3	97.3	98.7	99.9	100.1	99.2	97.9	98.7	100.1	102.0	102.3	102.2	99.5
1926...	101.3	102.9	103.9	104.3	103.7	103.2	101.8	103.0	103.5	103.0	100.8	98.6	102.5
1927...	96.0	97.9	99.1	99.3	99.2	98.2	95.8	96.4	95.9	95.2	92.9	91.5	96.5
1928...	90.3	92.8	94.9	96.1	97.7	98.2	97.4	99.9	101.3	101.6	101.0	100.6	97.7
1929...	101.0	103.9	105.9	108.0	109.3	109.3	109.2	110.3	109.8	107.7	102.5	97.6	106.2
1930...	94.8	95.3	95.1	94.9	93.8	90.8	86.3	83.7	82.3	80.9	78.1	75.7	87.6
1931...	72.3	72.4	72.5	72.6	71.9	69.8	67.1	65.8	65.0	62.2	60.6	60.2	67.7
1932...	58.1	58.8	57.5	55.5	54.0	52.5	50.1	48.9	49.2	49.6	50.0	49.6	52.8
1933...	47.7	48.6	46.8	47.9	50.9	55.3	59.8	65.0	68.3	68.0	66.1	65.8	57.5
1934...	65.1	69.4	73.5	76.6	78.3	77.6	75.1	72.9	70.7	69.3	68.8	71.2	72.4
1935...	73.5	77.3	79.3	80.2	79.7	77.4	77.3	79.1	79.9	83.8	85.1	84.7	79.8
1936...	83.2	83.0	84.7	87.5	89.6	90.5	91.0	91.3	92.5	96.3	98.3	100.4	90.7
1937...	97.9	101.2	104.9	107.4	109.1	107.8	108.2	107.5	106.8	107.2	101.4	92.4	104.3
1938...	82.5	81.1	80.4	78.3	76.4	73.9	71.9	73.5	77.2	81.1	84.4	85.5	78.9
1939...	84.1	85.3	86.2	87.0	86.3	87.1	85.5	86.5	92.4	98.5	100.9	102.8	90.2
1940...	106.1	99.2	99.1	98.7	99.2	99.8	98.4	102.4	108.2	112.8	115.5	117.7	104.3
1941...	118.3	121.0	123.7	127.7	131.3	135.1	137.6	138.7	142.1	144.0	144.6	144.3	134.0
Indexes of pay rolls													
1923...	89.3	94.9	100.7	104.0	109.0	109.2	103.5	105.0	104.5	107.9	106.7	103.8	103.2
1924...	98.3	106.6	107.8	106.7	100.9	92.7	83.6	86.9	88.7	92.0	90.8	95.4	95.9
1925...	92.7	99.9	102.2	101.6	103.3	100.2	96.3	98.5	98.1	105.8	106.1	106.6	100.9
1926...	99.9	106.4	108.6	107.8	106.5	106.1	100.2	104.7	104.6	108.2	108.9	101.1	104.8
1927...	93.6	101.8	104.8	104.6	104.7	101.2	94.8	98.5	96.1	97.7	93.7	94.7	98.9
1928...	90.1	98.0	101.0	101.4	103.9	103.0	99.0	104.5	104.8	109.4	106.1	105.8	102.3
1929...	102.2	111.5	114.6	117.5	118.7	115.8	109.8	115.4	114.6	113.4	102.9	97.4	111.2
1930...	91.0	96.1	96.8	97.0	94.8	90.3	79.1	76.0	75.4	74.4	68.6	66.1	83.8
1931...	59.1	63.7	65.2	64.6	63.7	58.7	53.6	52.2	48.8	47.7	45.3	44.9	55.6
1932...	40.7	41.8	39.5	36.9	35.8	32.6	29.4	27.9	27.9	29.8	29.5	29.0	33.4
1933...	27.5	27.8	25.8	27.5	32.0	36.4	39.6	45.2	46.0	46.3	43.6	43.8	36.8
1934...	43.1	49.6	54.8	59.6	60.9	59.2	51.3	51.7	47.1	48.2	48.1	52.7	52.2
1935...	55.1	61.6	63.6	64.9	62.6	60.0	58.2	62.5	64.6	70.4	71.9	73.5	64.1
1936...	69.1	68.1	73.2	78.2	81.0	81.6	78.7	79.8	80.1	88.6	92.4	97.3	80.7
1937...	90.3	96.8	104.9	112.0	113.3	109.9	106.1	109.2	104.7	107.0	93.8	80.2	102.4
1938...	66.6	66.7	67.0	65.2	63.9	61.4	58.5	63.5	68.6	75.1	78.2	80.2	67.9
1939...	76.7	78.4	80.2	80.3	79.7	81.7	77.0	82.5	88.8	100.7	102.1	105.8	86.2
1940...	99.3	97.8	98.7	98.4	98.7	101.4	97.4	106.5	115.1	123.4	125.1	131.7	107.8
1941...	132.0	139.3	144.6	149.9	163.1	173.9	172.2	177.6	183.3	191.4	190.3	195.9	167.8
NONDURABLE-GOODS MANUFACTURE—JANUARY 1923 TO DECEMBER 1941													
Indexes of employment													
1923...	102.6	103.9	105.6	104.6	104.0	104.1	103.2	103.8	105.2	103.3	101.8	100.7	103.6
1924...	99.6	100.9	100.2	97.1	94.5	92.8	90.6	93.2	96.9	97.0	96.4	97.7	96.4
1925...	97.8	99.3	99.7	98.4	97.1	97.7	98.7	101.3	103.7	103.2	102.2	101.4	100.0
1926...	100.7	101.1	101.2	99.4	98.0	98.5	97.7	100.7	104.4	104.2	102.4	101.9	100.9
1927...	101.1	102.3	102.6	101.2	100.0	101.1	101.2	103.3	106.2	104.9	102.8	101.3	102.3
1928...	100.1	101.3	101.3	99.4	98.0	98.7	99.4	102.2	105.1	105.4	104.1	103.6	101.6
1929...	102.3	104.3	105.0	105.4	103.9	104.4	105.6	108.2	110.8	110.2	106.6	103.6	105.9
1930...	101.4	101.2	100.5	99.6	97.4	96.3	94.3	95.3	98.6	96.2	92.3	89.9	96.9
1931...	87.5	88.7	89.5	89.4	88.9	87.4	87.8	89.5	90.9	88.1	84.3	83.2	87.9
1932...	81.4	83.0	82.1	79.5	75.9	73.4	71.5	75.9	82.2	83.9	81.8	79.8	79.2
1933...	78.1	80.1	77.0	79.1	82.0	87.1	91.8	97.0	100.8	100.3	95.6	92.5	88.5
1934...	91.8	97.2	100.2	100.4	99.3	97.6	97.0	101.2	95.8	101.8	99.0	99.4	98.4
1935...	99.3	101.3	102.2	101.7	99.6	98.6	99.6	103.7	107.2	106.1	103.7	103.2	102.2
1936...	101.0	102.0	102.7	103.0	102.8	103.1	105.4	110.7	114.5	113.1	111.3	112.2	106.8
1937...	111.2	113.7	115.1	115.0	113.8	112.7	113.3	116.7	117.3	113.3	106.9	102.8	112.7
1938...	99.1	101.6	101.5	99.8	97.1	96.4	99.2	106.1	109.2	106.7	105.9	106.4	102.4
1939...	104.4	106.4	107.3	106.3	105.0	105.3	107.2	111.9	114.5	115.4	113.8	112.6	109.2
1940...	109.7	110.5	109.5	107.5	105.6	106.2	107.8	112.2	114.4	114.8	113.8	114.8	110.6
1941...	112.7	114.7	116.3	117.8	118.8	121.1	123.9	127.7	128.7	127.3	125.4	124.7	121.6

TABLE 1.—Indexes of employment and pay rolls in manufacturing industries, by months—Continued

NONDURABLE-GOODS MANUFACTURE—JANUARY 1923 TO DECEMBER 1941—Contd.													
Year	Jan- uary	Feb- ruary	March	April	May	June	July	Aug- ust	Sep- tem- ber	Octo- ber	Nov- em- ber	Dec- em- ber	Average
Indexes of pay rolls													
1923...	99.0	101.1	104.7	103.6	105.5	104.8	102.1	101.0	103.0	103.6	100.7	101.4	102.5
1924...	99.6	102.2	100.8	96.8	93.9	91.0	87.2	91.6	96.6	97.4	95.6	100.1	96.1
1925...	99.7	102.2	103.4	99.1	99.3	98.1	98.7	101.9	101.0	104.9	103.9	104.4	101.4
1926...	103.5	105.0	105.6	101.6	100.2	101.1	98.6	102.8	105.6	107.9	104.9	106.3	103.6
1927...	104.3	108.2	108.5	105.5	104.9	105.4	103.9	107.0	108.8	108.3	104.7	106.0	106.3
1928...	103.8	106.4	106.3	101.2	100.6	102.3	101.5	104.8	107.7	109.7	106.2	108.2	104.9
1929...	105.6	110.0	111.2	110.3	109.5	109.2	107.2	111.3	114.2	114.0	107.1	105.4	109.6
1930...	102.6	103.5	103.0	100.3	97.6	95.7	91.6	92.6	95.3	92.5	87.0	85.8	95.6
1931...	82.8	86.5	87.9	86.0	84.8	82.4	81.1	82.2	80.6	77.7	72.9	72.3	81.4
1932...	68.9	70.6	69.3	63.8	59.1	56.1	52.8	56.4	62.1	63.8	59.4	57.4	61.6
1933...	54.6	56.6	52.4	54.8	58.3	63.3	67.3	73.5	78.4	77.7	72.5	70.8	65.0
1934...	70.7	77.8	81.2	80.9	79.5	76.7	75.7	80.2	76.2	81.6	78.5	81.4	78.4
1935...	81.3	85.0	86.4	85.4	82.2	80.9	81.2	86.8	90.4	89.6	86.2	88.4	85.3
1936...	85.7	86.1	88.8	87.4	87.3	87.1	89.0	95.8	95.1	97.8	96.6	101.3	91.5
1937...	99.4	103.9	107.0	107.0	106.4	105.1	104.1	108.1	105.1	102.5	92.6	89.4	102.6
1938...	85.2	90.0	89.9	86.4	84.5	83.0	86.5	94.0	97.6	96.1	93.2	96.9	90.3
1939...	93.7	96.8	98.4	94.1	93.7	94.8	95.6	100.9	102.8	106.0	104.4	105.0	98.9
1940...	100.4	101.0	101.0	97.3	96.8	97.4	99.1	104.4	107.7	108.1	106.6	112.1	102.7
1941...	108.1	112.9	116.3	117.7	122.9	127.9	130.7	136.3	139.5	139.6	137.4	141.3	127.6

Indexes of Employment and Pay Rolls, by Industries

In table 2 are shown average yearly indexes of employment and pay rolls for 1929, 1933, 1936, 1937, 1939, and 1940 for each of the 14 major manufacturing groups, the 2 subgroups, and the 90 separate manufacturing industries included in the Bureau's survey. Unlike the indexes for total manufacturing and the durable and nondurable goods groups, these indexes have not been adjusted to preliminary 1939 census figures, but will be revised as soon as the final 1939 census figures are released.

TABLE 2.—Indexes of employment and pay rolls in manufacturing industries for 1929, 1933, 1936, 1937, 1939, and 1940¹

Industry	[1923-25=100.0]											
	Employment						Pay rolls					
	1929	1933	1936	1937	1939	1940	1929	1933	1936	1937	1939	1940
<i>Durable goods</i>												
Iron and steel and their products, not including machinery.....	103.3	65.8	100.4	114.5	95.9	109.5	108.3	39.9	87.2	111.2	90.9	109.8
Blast furnaces, steel works, and rolling mills.....	103.2	71.0	107.1	123.5	102.0	119.0	109.6	40.5	93.0	122.5	96.8	118.6
Bolts, nuts, washers, and rivets.....	114.0	59.8	101.9	118.6	101.2	115.6	122.0	39.5	96.7	121.9	108.0	131.7
Cast-iron pipe.....	87.8	42.1	72.1	78.4	74.0	79.2	85.2	22.1	55.9	68.4	65.3	74.4
Cutlery (not including silver and plated cutlery), and edge tools.....	89.5	64.5	87.8	100.5	94.7	105.0	87.5	43.8	76.2	92.3	84.5	96.9
Forgings, iron and steel.....	87.8	33.4	62.1	76.7	58.8	73.5	97.8	20.9	57.6	78.5	63.5	87.9
Hardware.....	101.7	63.4	87.6	103.3	87.7	98.8	106.9	42.6	81.6	103.2	90.5	106.8
Plumbers' supplies.....	92.5	52.6	76.2	83.5	77.6	86.2	87.2	30.3	60.3	71.8	69.2	79.5
Stamped and enameled ware.....	120.5	97.2	166.0	183.8	152.0	168.2	125.6	66.7	154.0	183.2	153.6	181.3
Steam and hot-water heating apparatus and steam fittings.....	91.6	51.6	78.2	91.6	78.3	90.0	92.4	30.6	62.5	81.1	67.0	84.7
Stoves.....	99.3	64.3	100.0	105.9	86.8	94.5	98.8	40.8	83.5	90.7	76.4	86.9
Structural and ornamental metal-work.....	111.2	43.3	68.9	78.6	69.3	77.6	112.8	23.9	52.6	69.1	60.1	69.1
Tin cans and other tinware.....	104.3	77.3	101.5	109.7	97.1	99.4	113.6	67.6	95.0	110.8	101.5	107.3
Tools (not including edge tools, machine tools, files, and saws).....	107.6	53.5	83.1	98.1	86.4	99.0	117.8	37.2	77.7	96.3	83.7	102.0
Wirework.....	124.2	97.9	160.0	185.8	149.4	168.2	129.3	65.6	145.3	181.6	155.3	187.2

See footnotes at end of table.

TABLE 2.—Indexes of employment and pay rolls in manufacturing industries for 1929, 1933, 1936, 1937, 1939, and 1940—Continued

Industry	Employment						Pay rolls					
	1929	1933	1936	1937	1939	1940	1929	1933	1936	1937	1939	1940
<i>Durable goods—Continued</i>												
Machinery, not including transportation equipment.....	125.9	60.8	103.3	124.0	99.1	119.5	134.3	40.5	93.8	126.2	99.6	131.8
Agricultural implements (including tractors).....	145.5	43.3	142.7	174.3	121.8	137.4	154.4	30.0	135.6	196.8	134.2	160.3
Cash registers, adding machines, and calculating machines.....	120.8	78.2	129.4	148.4	128.1	130.2	137.3	60.1	115.4	150.7	123.4	137.1
Electrical machinery, apparatus, and supplies.....	127.3	58.8	91.8	115.7	90.0	108.0	134.4	38.9	84.1	119.7	95.4	124.8
Engines, turbines, water wheels and windmills.....	129.0	48.3	81.2	103.1	99.1	164.1	150.9	33.8	79.9	115.7	117.8	221.1
Foundry and machine-shop products.....	111.3	54.6	91.1	107.8	85.4	101.3	117.9	34.9	80.3	104.9	79.8	102.2
Machine tools.....	167.2	44.9	129.0	166.9	150.9	233.3	187.6	30.9	131.5	192.0	175.6	311.3
Radios and phonographs.....	204.5	112.1	173.0	164.8	133.9	144.3	202.9	81.4	140.7	142.8	120.5	137.9
Textile machinery and parts.....	88.1	60.5	70.1	82.5	76.7	82.0	96.7	47.9	65.8	84.7	72.9	79.2
Typewriters and parts.....	121.1	68.5	119.8	153.2	125.2	119.9	130.1	44.1	114.8	151.4	122.4	127.3
Transportation equipment ¹	103.5	54.5	103.2	118.3	95.9	122.2	105.4	35.6	93.2	115.1	95.7	132.0
Aircraft ²	525.2	279.6	627.7	858.6	1416.4	3217.7	501.5	236.2	523.8	764.4	1402.9	3399.7
Automobiles.....	111.3	60.6	113.9	128.3	97.9	111.3	111.6	38.3	102.8	124.1	97.5	121.1
Cars, electric and steam-railroad.....	63.1	22.5	48.2	63.9	37.5	56.4	63.1	14.6	38.4	58.9	31.8	51.1
Locomotives.....	56.8	12.2	27.0	46.3	23.5	32.6	58.3	6.0	22.0	47.8	21.6	32.9
Shipbuilding.....	101.3	56.8	105.5	114.5	122.7	172.2	109.7	42.1	97.0	116.4	130.3	200.4
Nonferrous metals and their products.....	110.2	62.6	96.1	108.5	98.2	114.1	115.3	41.1	81.7	102.5	93.1	117.3
Aluminum manufactures.....	138.4	89.1	140.3	154.8	153.9	192.0	150.0	60.1	125.3	161.2	168.4	227.3
Brass, bronze, and copper products.....	121.5	73.4	110.9	127.6	113.2	139.2	128.3	48.0	98.5	126.7	117.8	160.6
Clocks and watches and time-recording devices.....	98.2	58.9	94.8	106.4	85.1	95.5	102.2	39.7	89.1	109.3	85.3	101.8
Jewelry.....	111.4	59.3	81.9	91.0	92.5	96.8	113.3	37.7	64.0	76.6	76.5	81.3
Lighting equipment.....	104.2	46.5	84.7	96.0	83.0	92.6	110.6	31.6	66.9	82.9	66.8	80.5
Silverware and plated ware.....	92.6	54.1	57.8	67.0	69.7	71.9	96.5	35.1	46.9	58.9	62.6	66.0
Smelting and refining—copper, lead, and zinc.....	91.3	42.9	76.3	87.8	79.0	89.8	99.4	27.4	65.7	87.4	75.1	89.2
Lumber and allied products.....	95.2	49.9	70.9	76.3	66.9	70.0	97.3	30.3	57.5	66.9	59.8	65.4
Furniture.....	111.9	61.0	86.8	98.3	86.9	91.2	114.0	35.9	67.6	81.2	73.6	81.0
Lumber:												
Millwork.....	84.6	33.2	54.9	62.7	59.4	64.3	83.5	18.7	40.7	48.5	46.9	51.5
Sawmills.....	87.7	39.6	61.7	67.8	60.5	62.7	90.7	24.4	50.5	59.3	53.1	57.9
Stone, clay, and glass products.....	93.8	49.4	78.3	85.8	79.4	82.8	93.7	30.8	61.4	75.5	69.8	74.9
Brick, tile, and terra cotta.....	91.5	31.3	56.8	63.9	59.4	61.2	84.7	15.0	41.3	50.8	47.1	49.6
Cement.....	90.3	42.8	62.2	71.5	66.7	68.9	92.9	26.4	50.6	64.9	62.3	66.2
Glass.....	96.7	71.3	101.2	113.2	100.1	108.0	100.9	52.0	93.9	116.9	103.8	117.6
Marble, granite, slate, and other products.....	98.7	43.1	49.2	54.3	50.1	46.0	104.0	27.7	36.0	40.4	37.7	33.5
Pottery.....	94.7	63.2	81.1	88.4	87.6	94.1	91.4	37.4	67.1	80.1	78.5	85.5
<i>Nondurable goods</i>												
Textiles and their products.....	104.8	90.5	107.9	111.3	103.0	101.2	105.2	61.8	87.4	94.0	86.4	87.0
Fabrics.....	99.2	86.4	96.9	100.6	93.8	92.5	99.4	61.4	80.9	89.0	81.3	82.3
Carpets and rugs.....	96.2	62.8	83.1	90.8	78.1	77.6	90.1	41.0	64.3	72.6	65.4	66.1
Cotton goods.....	96.1	85.9	88.8	95.5	89.1	92.7	90.1	60.2	74.1	87.0	78.0	84.7
Cotton small wares.....	97.4	84.3	86.4	88.1	84.1	81.0	102.1	66.5	76.9	80.4	79.0	76.8
Dyeing and finishing textiles.....	121.8	101.8	120.2	124.2	126.0	125.7	124.8	77.5	109.9	108.1	107.6	106.1
Hats, fur-felt.....	105.3	79.8	99.2	101.4	88.8	81.1	112.3	59.5	88.3	88.2	73.6	70.0
Hosiery.....	132.9	120.9	146.6	152.3	152.0	139.4	169.2	100.2	150.9	162.4	160.2	145.5
Knitted underwear.....	84.8	78.7	96.0	85.8	71.5	67.2	85.7	58.0	80.7	70.2	57.1	56.1
Knitted underwear.....	89.0	77.0	81.5	85.6	75.1	75.3	86.4	58.4	70.6	74.9	66.8	68.2
Knitted cloth.....	130.8	137.9	179.5	174.9	138.9	140.4	119.5	98.7	140.2	143.8	113.9	118.3
Silk and rayon goods.....	103.8	87.8	91.9	93.0	73.9	64.7	105.6	56.9	66.5	71.0	56.5	51.3
Woolen and worsted goods.....	82.6	71.4	88.1	86.9	85.6	84.1	80.1	49.7	69.5	75.2	71.3	74.0
Wearing apparel.....	113.3	97.7	130.3	131.4	119.4	116.6	111.0	60.0	96.5	98.8	91.2	91.0
Clothing, men's.....	103.2	90.5	116.5	117.5	105.6	105.0	95.8	52.8	82.2	86.8	78.7	78.6
Clothing, women's.....	146.8	125.1	191.7	190.1	170.1	164.3	146.6	74.5	131.2	131.9	121.3	121.0
Corsets and allied garments.....	89.2	91.6	102.2	107.1	112.9	112.6	97.0	73.2	97.7	103.3	117.1	116.2
Men's furnishings.....	132.7	110.7	141.1	147.5	131.5	118.9	145.5	79.1	121.8	126.0	118.1	112.8
Millinery.....	101.3	71.0	80.1	83.3	78.8	75.4	104.0	49.4	68.8	69.1	63.0	62.2
Shirts and collars.....	109.1	103.1	121.1	126.7	122.0	120.5	109.2	68.3	101.2	104.2	102.6	105.2

TABLE 2.—*Indexes of employment and pay rolls in manufacturing industries for 1929, 1933, 1936, 1937, 1939, and 1940—Continued*

Industry	Employment						Pay rolls					
	1929	1933	1936	1937	1939	1940	1929	1933	1936	1937	1939	1940
<i>Nondurable goods—Continued</i>												
Leather and its manufactures.....	98.5	87.2	98.0	102.7	97.7	92.1	99.0	61.2	77.7	85.6	79.4	74.6
Boots and shoes.....	96.7	89.8	96.3	101.4	96.4	90.5	95.6	61.1	73.8	82.3	75.9	70.9
Leather.....	91.1	80.7	94.1	92.6	86.5	82.8	92.8	63.0	84.9	89.6	84.3	80.3
Food and kindred products.....	111.1	100.3	126.2	133.7	128.2	130.1	112.9	78.7	109.1	124.0	122.7	126.8
Baking.....	123.6	112.2	140.2	147.3	145.4	144.7	125.3	89.9	121.3	134.4	134.6	137.4
Beverages.....	101.3	138.2	235.7	269.0	272.9	274.8	106.1	131.9	262.4	305.1	313.1	320.0
Butter.....	100.3	86.7	99.3	102.2	95.4	97.1	102.5	63.8	77.8	83.1	80.8	83.3
Canning and preserving.....	134.6	112.7	164.5	185.7	151.6	146.2	129.4	76.8	120.7	156.5	128.2	126.2
Confectionery.....	101.7	81.0	82.4	86.0	83.0	86.0	103.7	60.7	71.3	79.9	80.0	84.3
Flour.....	80.6	69.2	77.4	78.7	79.2	79.2	85.7	55.2	68.5	73.7	75.4	74.5
Ice cream.....	96.0	61.6	76.5	80.1	77.3	77.7	102.7	49.1	59.6	64.7	64.5	66.3
Slaughtering and meat packing.....	96.7	89.3	98.4	100.6	100.5	110.2	101.5	68.7	91.3	104.3	106.4	115.9
Sugar, beet.....	91.2	130.0	110.5	113.7	113.4	109.9	90.3	98.2	92.2	105.9	108.2	111.0
Sugar refining, cane.....	94.3	77.9	95.0	95.0	94.7	94.7	81.4	62.7	72.4	81.9	80.5	81.4
Tobacco manufactures.....	83.9	63.1	66.0	66.6	64.6	63.9	81.8	44.1	54.8	60.9	59.0	61.8
Chewing and smoking tobacco and snuff.....	68.0	64.2	62.5	63.6	61.4	58.2	71.3	56.0	61.6	68.3	66.4	67.0
Cigars and cigarettes.....	86.0	62.9	66.4	66.9	64.9	64.5	83.1	42.6	53.8	59.9	57.9	61.1
Paper and printing.....	111.3	86.7	107.9	116.5	112.6	115.7	119.5	68.3	96.6	108.9	107.1	112.6
Boxes, paper.....	97.9	83.0	104.0	114.6	114.7	118.1	102.9	67.7	102.3	118.8	125.2	129.9
Paper and pulp.....	106.1	89.0	106.8	114.3	108.5	115.0	112.5	64.4	95.6	114.0	110.3	122.2
Printing and publishing:												
Book and job.....	113.1	78.5	99.7	106.0	99.6	100.7	118.7	60.6	83.0	91.6	86.4	88.9
Newspapers and periodicals.....	111.0	93.4	109.2	115.8	114.8	116.2	121.8	78.6	100.9	106.6	107.1	110.2
Chemical, petroleum, and coal products.....	115.7	97.1	116.1	127.0	115.6	122.1	120.9	76.2	105.8	129.6	123.1	135.3
Petroleum refining.....	124.4	106.5	121.8	128.3	120.4	121.7	129.2	88.4	115.1	138.2	134.3	136.4
Other than petroleum refining.....	113.6	94.8	114.7	126.7	114.4	122.2	118.4	72.5	103.0	126.9	119.7	134.9
Chemicals.....	109.2	93.3	124.2	133.5	122.7	140.5	120.0	75.2	117.0	148.9	139.8	168.2
Cottonseed—oil, cake, and meal.....	109.0	98.1	91.9	114.2	93.4	88.7	118.9	57.1	65.5	90.6	79.2	83.7
Druggists' preparations.....	116.4	94.7	106.9	116.0	111.5	117.1	124.4	86.7	105.1	120.5	122.6	129.6
Explosives.....	95.3	70.8	81.5	91.8	93.1	126.5	102.0	49.6	82.6	103.4	107.2	154.3
Fertilizers.....	113.4	70.7	95.1	113.1	106.1	108.2	108.3	44.0	70.0	92.9	84.3	89.7
Paints and varnishes.....	122.3	95.9	122.7	132.7	122.0	124.8	129.6	73.0	111.6	131.2	126.2	133.5
Rayon and allied products.....	244.4	276.7	320.0	344.1	298.5	309.9	220.2	190.3	260.7	321.7	285.4	320.3
Soap.....	88.6	88.3	81.0	86.5	83.0	83.8	96.7	71.9	80.5	97.0	99.7	101.8
Rubber products.....	111.0	79.1	90.4	96.7	84.6	88.4	115.1	55.0	86.8	95.1	87.5	92.7
Rubber boots and shoes.....	102.1	72.0	74.4	73.0	68.6	67.4	105.6	51.0	65.4	72.1	58.1	59.0
Rubber tires and inner tubes.....	110.0	69.9	73.3	83.5	68.9	72.0	113.2	43.8	82.5	86.3	78.5	82.6
Rubber goods, other.....	120.3	105.3	129.7	144.1	139.7	148.5	126.4	75.3	114.5	136.3	133.9	145.0

¹ Adjusted to 1937 Census of Manufactures for all industries except automobiles.

² 1939 and 1940 data adjusted on basis of preliminary 1939 census figures and a complete survey of employment in aircraft firms made by the Bureau of Labor Statistics for August 1940.

Table 3 shows the estimated number of wage earners and amount of weekly wages, together with the indexes of employment and pay rolls for August 1941. The index numbers indicate in percentage terms the levels of employment and pay rolls in August 1941 in comparison with employment and pay rolls in the base period, 1923-25.

TABLE 3.—Average employment and weekly pay rolls in manufacturing industries and indexes for August 1941

Industry	Employment, August 1941		Pay rolls, August 1941	
	Number	Index (1923-25=100)	Amount	Index (1923-25=100)
All industries.....	10,501,800	133.1	\$289,995,000	158.1
Durable goods.....	5,341,800	138.7	177,980,000	177.6
Nondurable goods.....	5,160,000	127.7	122,015,000	136.3
<i>Durable goods</i>				
Iron and steel and their products, not including machinery.....	1,247,200	139.9	43,730,000	172.0
Blast furnaces, steel works, and rolling mills.....	605,900	149.1	23,512,000	183.3
Bolts, nuts, washers, and rivets.....	24,300	171.3	895,000	257.3
Cast-iron pipe.....	21,600	96.1	569,000	111.8
Cutlery (not including silver and plated cutlery), and edge tools.....	21,300	127.4	572,000	147.5
Forgings, iron and steel.....	26,300	110.6	1,153,000	169.8
Hardware.....	58,200	113.2	1,775,000	145.7
Plumbers' supplies.....	31,000	102.6	875,000	107.1
Stamped and enameled ware.....	74,500	224.5	2,194,000	286.0
Steam and hot-water heating apparatus and steam fittings.....	54,100	125.2	1,812,000	147.7
Stoves.....	55,100	117.2	1,617,000	127.4
Structural and ornamental metal work.....	54,300	110.0	1,873,000	125.2
Tin cans and other tinware.....	43,900	145.3	1,193,000	184.7
Tools (not including edge tools, machine tools, files, and saws).....	25,500	142.6	800,000	190.1
Wirework.....	34,200	189.8	1,029,000	247.9
Machinery, not including transportation equipment.....	1,562,900	176.5	58,009,000	243.4
Agricultural implements (including tractors).....	76,500	172.0	2,710,000	227.5
Cash registers, adding machines, and calculating machines.....	23,700	170.3	930,000	223.1
Electrical machinery, apparatus, and supplies.....	372,300	167.4	13,750,000	240.0
Engines, turbines, water wheels and windmills.....	100,400	314.7	4,615,000	546.2
Foundry and machine-shop products.....	578,800	145.6	20,700,000	186.0
Machine tools.....	99,500	351.5	4,328,000	553.4
Radios and phonographs.....	59,500	202.4	1,640,000	234.0
Textile machinery and parts.....	33,300	108.4	1,023,000	135.8
Typewriters and parts.....	21,800	155.7	734,000	222.3
Transportation equipment.....	969,500	172.0	38,622,000	224.4
Aircraft.....	221,100	7,897.3	8,655,000	10,303.0
Automobiles.....	446,600	110.9	17,564,000	139.2
Cars, electric- and steam-railroad.....	56,600	89.2	1,808,000	93.7
Locomotives.....	16,600	70.2	555,000	93.4
Shipbuilding.....	211,200	388.3	9,508,000	614.6
Nonferrous metals and their products.....	363,000	145.5	11,984,000	182.6
Aluminum manufactures.....	36,900	240.9	1,317,000	345.8
Brass, bronze, and copper products.....	125,600	192.9	4,793,000	273.6
Clocks and watches and time-recording devices.....	25,700	118.0	759,000	156.4
Jewelry.....	29,600	118.0	749,000	113.3
Lighting equipment.....	25,300	111.8	687,000	118.7
Silverware and plated ware.....	14,400	84.8	425,000	94.4
Smelting and refining—copper, lead, and zinc.....	35,100	103.5	1,128,000	118.4
Lumber and allied products.....	736,600	81.0	16,897,000	92.3
Furniture.....	187,400	108.4	4,753,000	116.1
Lumber:				
Millwork.....	83,100	78.0	2,006,000	74.8
Sawmills.....	338,300	70.7	7,171,000	80.3
Stone, clay, and glass products.....	355,000	101.3	9,254,000	104.2
Brick, tile, and terra cotta.....	81,100	79.4	1,868,000	77.0
Cement.....	30,800	83.5	949,000	93.9
Glass.....	90,700	130.0	2,598,000	155.4
Marble, granite, slate, and other products.....	17,100	44.6	421,000	36.1
Pottery.....	44,700	119.4	1,139,000	124.1

TABLE 3.—Average employment and weekly pay rolls in manufacturing industries and indexes for August 1941—Continued

Industry	Employment, August 1941		Pay rolls, August 1941	
	Number	Index (1923-25=100)	Amount	Index (1923-25=100)
<i>Nondurable goods</i>				
Textiles and their products.....	1,880,600	115.4	37,791,000	119.3
Fabrics.....	1,182,200	106.9	23,303,000	114.4
Carpets and rugs.....	30,700	90.5	799,000	93.4
Cotton goods.....	485,500	109.9	8,742,000	126.2
Cotton small wares.....	16,700	106.4	359,000	123.3
Dyeing and finishing textiles.....	88,700	136.3	1,924,000	132.5
Hats, fur-felt.....	12,900	82.0	348,000	90.4
Hosiery.....	138,000	141.5	2,450,000	153.9
Knitted outerwear.....	27,800	81.3	502,000	77.3
Knitted underwear.....	40,300	86.4	666,000	90.5
Knit cloth.....	10,500	161.4	222,000	157.3
Silk and rayon goods.....	85,400	67.9	1,595,000	63.7
Woolen and worsted goods.....	193,800	108.9	4,670,000	118.5
Wearing apparel.....	614,500	129.6	12,574,000	121.7
Clothing, men's.....	224,700	123.3	4,708,000	113.6
Clothing, women's.....	224,400	175.7	5,070,000	154.3
Corsets and allied garments.....	18,200	119.1	344,000	139.4
Men's furnishings.....	25,600	128.1	439,000	144.4
Millinery.....	25,400	79.8	589,000	74.5
Shirts and collars.....	77,000	133.6	1,132,000	140.6
Leather and its manufactures.....	326,900	101.1	7,311,000	104.7
Boots and shoes.....	209,000	98.3	4,502,000	100.7
Leather.....	51,900	94.8	1,432,000	109.0
Food and kindred products.....	1,058,400	159.3	25,100,000	165.5
Baking.....	248,000	152.7	6,535,000	155.2
Beverages.....	91,500	328.1	2,986,000	429.7
Butter.....	21,100	111.1	477,000	105.1
Canning and preserving.....	254,500	304.4	4,043,000	324.7
Confectionery.....	56,800	91.1	1,053,000	100.6
Flour.....	26,200	78.1	636,000	80.9
Ice cream.....	22,100	94.8	533,000	84.4
Slaughtering and meat packing.....	155,100	122.4	4,490,000	142.9
Sugar, beet.....	5,200	63.6	144,000	67.8
Sugar refining, cane.....	14,000	95.4	377,000	100.3
Tobacco manufactures.....	91,100	65.8	1,558,000	70.0
Chewing and smoking tobacco and snuff.....	8,300	52.3	1,165,000	63.2
Cigars and cigarettes.....	82,700	67.5	1,390,000	70.1
Paper and printing.....	658,100	123.9	19,462,000	130.9
Boxes, paper.....	80,800	142.0	1,941,000	181.9
Paper and pulp.....	154,100	127.8	4,814,000	162.7
Printing and publishing:				
Book and job.....	140,400	105.5	4,014,000	98.5
Newspapers and periodicals.....	134,100	114.7	4,390,000	109.8
Chemical, petroleum, and coal products.....	470,600	142.0	14,914,000	180.0
Petroleum refining.....	82,900	127.9	3,106,000	159.1
Other than petroleum refining.....	387,700	145.4	11,808,000	136.4
Chemicals.....	102,700	180.1	3,750,000	247.2
Cottonseed—oil, cake, and meal.....	10,300	70.9	118,000	65.1
Druggists' preparations.....	18,600	135.7	482,000	165.0
Explosives.....	21,400	363.5	829,000	518.0
Fertilizers.....	16,600	89.6	289,000	90.8
Paints and varnishes.....	34,600	144.8	1,075,000	171.5
Rayon and allied products.....	52,700	329.3	1,436,000	368.2
Soap.....	15,800	97.4	511,000	135.1
Rubber products.....	150,200	111.8	4,815,000	138.8
Rubber boots and shoes.....	20,000	79.4	557,000	102.2
Rubber tires and inner tubes.....	65,600	86.7	2,512,000	116.4
Rubber goods, other.....	64,400	192.9	1,746,000	228.3

Employment and Pay Rolls in Mining, Public Utility, Trade, and Service Industries

The indexes of employment and pay rolls in the nonmanufacturing industries surveyed by the Bureau have as the index base period the average for the year 1929=100. As in manufacturing, they are adjusted periodically to conform with trends shown by available census data. Figures for recent years are therefore subject to revision.

The indexes for anthracite and bituminous-coal mining have been adjusted to conform with levels shown by the Censuses of Mines for 1929 and 1935, and those for the telephone and telegraph, electric light and power, and street railways and busses have been adjusted to the figures for the respective industries shown by the Censuses of Electrical Industries for 1932 and 1937.

The indexes for wholesale trade have been adjusted to levels indicated by the 1929 and 1933 Censuses of Wholesale Distribution, while those for retail trade have been adjusted to the Censuses of Retail Distribution of 1929, 1933, and 1935. In connection with the revision to the 1935 census, retail trade was subdivided by lines of trade and trade groups. The group and total retail trade indexes are weighted by the component lines or groups, similar to the method used in weighting the manufacturing indexes.

The hotel indexes, which relate to year-round hotels only, have been adjusted to the censuses of hotels having 25 or more rooms for 1929, 1933, and 1935, and the laundries and dyeing and cleaning indexes to respective census figures for 1929, 1931, and 1935.

Indexes for the brokerage and insurance industries are not available.

Table 5 shows indexes of employment and pay rolls in nonmanufacturing industries, by years from 1929 to 1940 and by months from July 1940 to December 1941.

TABLE 5.—*Indexes of employment and pay rolls in nonmanufacturing industries by years 1929 to 1940 and by months July 1940 to December 1941*
[1929=100]

Year and month	Anthracite mining		Bituminous-coal mining		Metal-liferous mining		Quarrying and non-metallic mining		Crude-petroleum production		Telephone and telegraph		Electric light and power	
	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls
1929.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	95.2	96.0	96.1	83.0	83.2	78.0	84.3	79.3	87.4	85.9	97.9	102.9	105.0	106.3
1931.....	84.3	76.9	88.9	61.2	59.1	44.8	67.4	53.4	65.7	61.7	86.6	93.7	96.4	97.8
1932.....	68.2	56.0	76.3	41.3	36.5	21.6	49.0	29.1	55.3	44.1	79.1	81.1	82.9	80.6
1933.....	59.5	49.0	79.9	45.4	34.6	20.6	44.9	24.7	62.2	44.1	70.6	68.5	77.3	71.8
1934.....	69.4	59.9	92.3	64.0	41.6	26.7	48.9	29.6	77.7	56.9	70.7	72.2	79.8	76.4
1935.....	64.7	52.2	94.9	70.1	47.3	33.9	46.0	30.7	74.9	57.9	70.7	75.6	81.4	81.2
1936.....	62.5	49.6	97.5	82.7	60.3	48.4	49.5	38.9	72.9	58.6	73.1	80.5	86.7	89.0
1937.....	60.2	46.9	99.3	88.5	76.8	74.0	51.4	45.4	76.5	68.2	78.9	91.5	92.4	106.6
1938.....	52.3	38.2	86.7	67.9	59.0	50.4	42.3	35.1	72.1	66.5	76.2	94.1	89.5	99.7
1939.....	50.6	39.5	78.6	69.9	62.7	55.9	44.6	38.7	65.8	61.0	75.8	95.6	89.0	100.4
1940.....	50.7	38.5	88.0	81.2	69.9	66.7	45.3	40.5	62.9	58.2	77.9	100.2	91.1	104.8
1940														
July.....	50.5	36.5	84.9	75.2	71.0	63.6	48.1	43.5	63.7	59.1	78.8	101.3	92.2	105.8
August.....	49.9	33.1	86.6	82.5	71.5	68.5	48.5	45.2	63.6	59.0	79.0	100.4	93.0	108.1
September.....	49.8	39.3	87.7	83.2	72.5	69.5	48.9	46.2	63.0	58.2	78.9	101.8	92.7	105.8
October.....	49.4	32.3	89.2	83.6	72.6	71.3	48.8	46.7	62.4	57.6	79.1	102.2	92.3	107.0
November.....	50.4	37.6	89.8	84.5	72.5	69.8	47.2	42.3	61.3	56.8	79.2	103.2	91.8	106.9
December.....	50.8	42.7	90.1	91.4	72.2	72.8	45.4	42.4	60.7	55.9	79.7	103.5	91.3	106.0

TABLE 5.—Indexes of employment and pay rolls in nonmanufacturing industries by years 1929 to 1940 and by months July 1940 to December 1941—Continued

Year and month	Anthracite mining		Bituminous-coal mining		Metal-liferous mining		Quarrying and non-metallic mining		Crude-petroleum production		Telephone and telegraph		Electric light and power	
	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls	Employment	Pay rolls
1941														
January	50.3	38.5	90.2	87.8	72.5	70.4	41.7	36.9	60.3	55.7	80.4	103.9	90.5	105.1
February	50.6	45.2	90.6	90.8	73.4	71.8	42.4	38.2	60.4	57.3	80.9	104.3	90.1	105.4
March	50.2	42.4	91.1	93.8	74.3	72.7	44.2	40.3	60.2	56.1	81.8	106.4	90.3	106.1
April	48.7	24.3	23.5	15.5	77.2	78.9	48.2	47.0	60.1	57.8	83.2	107.3	91.3	107.6
May	48.6	33.4	87.9	103.4	77.1	81.5	51.0	53.2	60.3	58.6	84.6	110.5	92.2	109.6
June	49.2	51.2	88.1	107.2	78.9	85.3	51.9	55.7	61.5	59.9	86.3	113.0	93.5	111.4
July	49.3	34.8	90.3	105.4	79.0	79.3	52.7	55.5	62.1	61.4	88.3	115.7	94.6	113.5
August	50.0	51.1	92.6	117.3	79.9	85.4	53.9	59.3	62.2	61.5	89.6	116.4	95.2	115.1
September	50.0	49.6	94.2	115.5	79.4	85.9	54.2	60.5	61.8	64.4	90.3	117.3	94.9	115.0
October	50.3	49.2	95.3	122.6	79.7	88.3	54.1	61.5	61.6	64.4	90.6	117.0	94.1	125.7
November	50.2	41.8	95.1	116.3	79.5	89.8	52.6	57.5	60.9	64.2	90.1	118.3	93.4	115.2
December	49.1	35.9	95.5	19.9	80.2	93.7	50.2	55.6	61.1	64.6	90.0	122.9	93.1	115.2
	Street rail-ways and busses		Wholesale trade		Retail trade		Retail trade general merchandising		Hotels, year-round		Laundries		Dyeing and cleaning	
1929	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930	93.6	93.6	95.7	95.3	93.9	91.8	93.9	93.7	96.5	96.5				
1931	84.5	82.7	85.8	81.9	85.8	80.0	92.1	87.9	86.3	81.4	93.1	88.3	85.6	76.1
1932	75.3	67.2	76.8	64.2	75.1	61.6	82.6	69.7	74.1	60.9	85.4	70.5	79.8	59.3
1933	69.7	58.1	76.1	56.8	74.2	55.2	84.2	65.4	70.1	51.0	83.1	60.3	84.4	53.7
1934	71.5	61.3	82.8	63.0	81.8	63.7	89.7	73.0	83.2	63.8	87.9	66.0	92.7	62.6
1935	70.8	62.7	84.0	65.6	84.4	68.9	89.6	74.5	87.4	68.2	90.1	68.4	97.7	66.3
1936	71.6	66.1	86.7	69.4	88.7	74.1	94.3	79.5	90.9	72.7	95.6	75.6	104.4	71.9
1937	72.7	69.6	92.0	76.6	93.1	82.2	99.3	88.3	94.9	80.6	100.6	83.0	107.5	77.6
1938	69.8	68.6	88.8	74.7	88.3	78.6	94.0	84.3	92.7	86.3	95.7	80.6	104.3	75.3
1939	69.0	69.5	89.2	76.6	89.8	80.8	96.8	86.9	92.0	81.2	95.9	83.1	101.3	73.6
1940	68.5	70.4	90.4	79.0	92.3	84.2	100.4	90.8	92.0	82.4	99.5	87.7	104.7	78.2
1940														
July	68.4	70.0	89.2	78.3	89.1	82.6	90.3	84.0	90.3	80.5	102.5	90.0	108.2	80.0
August	68.4	70.4	90.1	78.7	88.7	81.5	90.1	82.3	90.3	80.7	102.8	90.5	106.7	78.9
September	68.5	71.5	90.9	81.1	92.8	85.1	99.4	90.5	91.6	81.8	101.9	89.9	110.0	85.6
October	68.7	70.7	91.0	80.2	94.3	85.8	103.5	92.3	93.4	84.2	100.2	88.0	109.4	82.4
November	68.7	70.3	91.8	80.7	96.3	87.1	111.4	97.5	92.3	83.6	99.7	87.2	106.0	77.8
December	68.4	73.1	92.5	83.4	108.1	97.3	152.2	132.9	92.6	84.1	100.3	89.2	103.3	75.8
1941														
January	68.3	70.7	91.2	80.5	90.5	83.7	94.0	86.5	92.9	84.1	101.4	89.8	101.0	73.3
February	68.0	71.0	91.4	81.4	90.7	84.6	92.9	86.6	93.9	86.1	101.1	89.7	101.4	74.4
March	68.2	72.5	91.8	82.0	92.5	86.2	96.6	88.3	94.2	85.7	102.5	90.9	104.4	77.2
April	68.3	72.0	92.4	83.4	97.8	91.7	108.7	98.6	95.2	87.1	104.9	95.8	117.2	97.8
May	68.9	72.7	92.2	84.6	96.1	91.5	102.5	96.0	96.3	87.9	108.3	98.7	120.6	96.1
June	69.1	76.2	93.8	88.4	97.8	95.2	105.1	100.1	95.0	87.4	112.0	102.5	122.7	98.4
July	69.5	75.8	94.2	88.0	96.7	94.0	100.9	97.5	94.5	87.6	115.8	106.7	121.7	96.4
August	69.7	78.6	95.8	89.8	96.9	94.0	103.0	99.3	94.5	88.2	114.6	104.7	118.9	92.1
September	70.3	78.1	95.6	90.9	100.0	95.8	111.7	106.6	95.7	90.0	113.0	105.2	121.5	99.5
October	70.3	74.8	96.3	92.0	101.0	97.3	116.4	110.9	96.2	91.9	111.2	103.4	121.2	98.5
November	70.2	78.2	96.3	91.6	103.0	98.5	125.9	117.8	98.1	93.2	108.9	101.9	117.2	93.0
December	70.6	79.7	96.3	92.8	113.0	107.8	161.5	151.1	95.3	93.3	108.4	102.6	113.3	88.6

Trend of Employment on Steam Railroads

The trend of employment by months from January 1923 to December 1940 on class I railroads is shown by the index numbers published in table 6, based on the average, 1923-25 as 100. Class I railroads are defined as those roads having operating revenues of \$1,000,000 or over per annum. A new series based on the 1935-39

average is also shown for the months from January 1940 to December 1941. Both series of indexes have been computed by the Interstate Commerce Commission. Salaried employees are included.

TABLE 6.—Indexes of employment on class I railroads in the United States, January 1923 to December 1941¹

Year	[Average, 1923-25=100]												
	Jan- uary	Feb- ruary	March	April	May	June	July	Aug- ust	Sep- tem- ber	Oc- tober	Nov- ember	Dec- ember	Aver- age
1923	98.4	98.6	100.4	101.9	104.8	107.1	108.2	109.2	107.7	107.1	105.0	99.1	104.0
1924	96.7	96.9	97.3	98.8	99.1	97.9	98.0	98.9	99.6	100.7	98.9	96.0	98.2
1925	95.5	95.3	95.1	96.5	97.7	98.5	99.3	99.5	99.7	100.4	98.9	96.9	97.8
1926	95.6	95.8	96.5	98.6	100.0	101.3	102.3	102.4	102.5	103.1	101.0	98.0	97.8
1927	95.2	95.0	95.6	97.1	99.1	100.7	100.7	99.2	98.8	98.5	95.5	91.7	97.3
1928	89.1	88.7	89.7	91.5	94.4	95.8	95.4	95.5	95.1	95.2	92.7	89.5	92.7
1929	88.0	88.6	89.8	91.9	94.6	95.8	96.3	97.1	96.5	96.6	92.8	88.5	93.1
1930	86.1	85.2	85.3	86.7	88.3	86.3	84.5	83.5	82.0	80.2	76.9	74.8	83.3
1931	73.5	72.6	72.7	73.4	73.8	72.7	72.3	71.0	69.2	67.6	64.4	62.5	70.6
1932	61.1	60.2	60.5	59.9	59.6	57.7	56.3	54.9	55.7	56.9	55.8	54.7	57.8
1933	53.0	52.7	51.5	51.8	52.5	53.6	55.4	56.8	57.7	57.4	55.8	54.0	54.4
1934	54.1	54.6	55.9	56.9	58.5	59.0	58.7	57.8	57.3	56.6	54.8	53.8	56.5
1935	53.7	54.2	54.8	54.7	55.8	56.8	57.0	56.6	56.5	56.9	55.8	55.0	55.7
1936	55.0	57.8	57.2	58.8	59.8	60.3	60.8	61.0	61.7	62.1	61.1	60.6	59.7
1937	60.2	61.4	61.6	63.3	64.6	65.6	65.7	65.1	63.4	62.5	59.3	56.3	62.4
1938	53.7	52.6	51.9	51.1	50.7	51.2	52.1	52.6	53.9	54.7	53.8	52.8	52.6
1939	52.2	52.7	53.1	53.2	53.6	55.6	56.1	56.3	57.1	59.1	58.2	56.5	55.3
1940	55.4	55.7	55.2	55.1	56.7	58.0	58.8	59.4	59.8	60.1	58.4	57.4	57.5
Average 1935-39=100													
1940	96.9	97.5	96.7	96.5	99.2	101.5	103.0	103.9	104.6	105.2	102.3	100.5	100.7
1941	99.8	100.9	103.1	106.0	110.3	113.3	116.4	118.3	118.7	119.4	117.8	116.2	111.7

¹ Source: Interstate Commerce Commission.

Based on number of employees at middle of month, not adjusted for seasonal variation.



Employment and Total Wages of Hired Farm Workers¹

An outstanding characteristic of agriculture during the past three decades is the decline in the number of farm workers. The population of the country in 1919 was about 16 percent larger than in 1909, and yet the average number of farm workers was about 9 percent smaller. This decline was partly a result of the drawing off of workers into the armed forces and into industries most directly associated with wartime needs.

After the World War, there was a slight increase in the number of farm workers, but in 1927 the decline was resumed, and in 1940 the average number was 14 percent smaller than in 1909. The total population of the country, on the other hand, was about 45 percent larger. This comparison of the number of farm workers with total population must of course be qualified by such considerations as the changing age distribution of the population. Thus, in 1910, 65.3 percent of the population was from 15 to 69 years of age, and in 1940, according to preliminary estimates, 71.0 percent fell within these ages. On the other hand, the past three decades were marked by a tendency to reduce the amount of child labor.

¹ From articles by Witt Bowden, of the Bureau of Labor Statistics, in *Monthly Labor Review*, June and July 1939, and from later data published by the Bureau of Agricultural Economics.

Revised estimates of agricultural employment recently made by Government agencies² distinguish between family workers and hired workers. Family workers include operating owners, tenants, and sharecroppers, together with working members of their families. The group here classified as hired workers includes farm managers and foremen. In 1909, the estimated number of employed workers in both groups was 12,209,000. The estimate for 1919 was 11,106,000.

The number ranged within narrow limits during the next 10 years and in 1929 was 11,289,000, virtually the same as in 1919. This number was not again attained, although there was a rise after 1929 in the number of family workers as distinguished from hired workers. The estimated average of both types in 1940 was 10,445,000 or 1,764,000 (14.4 percent) less than the number in 1909.

TABLE 1.—*Estimated average number of farm workers, 1909 to 1940*¹

Year	Family workers		Hired workers		Total	
	Number (thousands)	Index (average 1923-25=100.0)	Number (thousands)	Index (average 1923-25=100.0)	Number (thousands)	Index (average 1923-25=100.0)
1909.....	9,341	109.7	2,868	99.6	12,209	107.1
1910.....	9,269	108.8	2,877	99.9	12,146	106.6
1911.....	9,172	107.7	2,870	99.7	12,042	105.7
1912.....	9,149	107.4	2,889	100.3	12,038	105.6
1913.....	9,128	107.2	2,905	100.9	12,033	105.6
1914.....	9,081	106.6	2,919	101.4	12,000	105.3
1915.....	9,047	106.2	2,934	101.9	11,981	105.1
1916.....	9,050	106.2	2,966	103.0	12,016	105.4
1917.....	8,856	104.0	2,933	101.9	11,789	103.4
1918.....	8,507	99.9	2,841	98.7	11,348	99.6
1919.....	8,322	97.7	2,784	96.7	11,106	97.4
1920.....	8,479	99.5	2,883	100.1	11,362	99.7
1921.....	8,511	99.9	2,901	100.8	11,412	100.1
1922.....	8,528	100.1	2,915	101.3	11,443	100.4
1923.....	8,491	99.7	2,894	100.5	11,385	99.9
1924.....	8,488	99.6	2,874	99.8	11,362	99.7
1925.....	8,577	100.7	2,869	99.7	11,446	100.4
1926.....	8,507	99.9	3,027	105.1	11,534	101.2
1927.....	8,296	97.4	2,950	102.5	11,246	98.7
1928.....	8,340	97.9	2,956	102.7	11,296	99.1
1929.....	8,305	97.5	2,984	103.6	11,289	99.0
1930.....	8,323	97.7	2,850	99.0	11,173	98.0
1931.....	8,469	99.4	2,690	93.4	11,159	97.9
1932.....	8,571	100.6	2,498	86.8	11,069	97.1
1933.....	8,590	100.8	2,433	84.5	11,023	96.7
1934.....	8,506	99.9	2,346	81.5	10,852	95.2
1935.....	8,704	102.2	2,468	85.7	11,172	98.0
1936.....	8,502	99.8	2,495	86.7	10,997	96.5
1937.....	8,273	97.1	2,557	88.8	10,830	95.0
1938.....	8,216	96.4	2,529	87.8	10,745	94.3
1939.....	8,150	95.7	2,479	86.1	10,629	93.3
1940.....	7,995	93.9	2,450	85.1	10,445	91.6

¹ The annual figures are the averages of the number of persons employed on the first of the month. The index numbers are computed on the 1923-25 base to correspond to the base period of employment indexes in manufacturing.

Data are from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36, and U. S. Department of Agriculture, Crops and Markets, January 1941.

² The general estimates of employment here given for 1909-36 are by Eldon E. Shaw and John A. Hopkins in U. S. Works Progress Administration National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36, Washington, 1938; the later estimates are by the Bureau of Agricultural Economics. This volume contains discussions of sources and methods. The estimates are computed from fragmentary data and must be viewed as broad indications, not exact measurements, of size and trend. Estimates of family workers are especially subject to error and, for reasons stated later, are not comparable to figures of industrial employment.

Most farms require little labor at certain seasons, and some, as for example certain types devoted wholly to wheat raising, require no labor except for planting and harvesting. The Census of Agriculture of 1935 indicated that more than 2,000,000 farm operators worked, for pay, away from their farms during a part of the year. About 279,000 of these worked at agricultural occupations, and about 1,484,000 worked at nonagricultural occupations. The children of farmers usually do some work during seasons of peak demand for labor, especially when these seasons do not come within the school year. When not employed at farm labor, they are not properly to be considered as unemployed. Such circumstances prevent exact comparisons of the number of farm workers, especially family workers, with the usual figures of the average employment of industrial wage earners.

Recent extensive studies of farm costs and income by the Department of Agriculture have included farm wage payments. These were studied primarily for making estimates of cost items offsetting the income of farm operators. The estimates of board and other perquisites, for example, were made from the point of view not of their value to the worker but of their cost to the employer. Total farm wage payments from 1909 to 1940, as calculated by the Department of Agriculture, are given in table 2. Estimates are also there given of the average annual earnings of hired farm workers. These averages are computed from the wage data of table 2 and from employment figures in the preceding table and should be viewed not as exact measurements but as mere approximations.

TABLE 2.—*Estimated total farm wage payments and average annual earnings of hired farm workers, 1909 to 1940*

Year	Farm wage payments (in millions of dollars) ¹				Average earnings of hired farm workers ²
	Total	Cash payments	Cost of—		
			Board and lodging	Other perquisites	
1909.....	\$735	\$522	\$130	\$53	\$256
1914.....	805	566	152	87	276
1919.....	1,515	1,099	258	158	544
1920.....	1,780	1,325	283	172	617
1921.....	1,159	841	208	110	400
1922.....	1,122	820	198	104	385
1923.....	1,219	902	206	111	421
1924.....	1,224	912	203	109	426
1925.....	1,243	924	200	119	433
1926.....	1,326	991	213	122	438
1927.....	1,280	955	210	115	434
1928.....	1,268	945	209	114	429
1929.....	1,284	955	213	116	430
1930.....	1,134	838	194	102	398
1931.....	847	618	160	69	315
1932.....	584	420	118	46	234
1933.....	517	366	104	47	212
1934.....	558	393	106	59	238
1935.....	639	449	117	73	259
1936.....	690	488	124	78	277
1937.....	794	570	138	86	311
1938.....	758	556	137	65	300
1939.....	738	542	135	61	298
1940.....	751	550	136	65	307

¹ U. S. Department of Agriculture. *Income Parity for Agriculture, Part II, Section 1, The Cost of Hired Farm Labor, 1909-38*. Washington, 1939. Figures for 1939 and 1940 were obtained from the Bureau of Agricultural Economics. The census of 1940 indicates that cash wage payments were probably higher than the estimates here given.

² Calculated from total farm wage payments (the first column of this table) and the estimates of hired farm workers given in table 1 (the preceding table).

Public Employment

Changes in the number of persons in the executive, legislative, and judicial branches and in the military services of the United States Government, from 1933 to 1941, are given in the table following. A broad general estimate of the total number of employees in the services of the Federal, State, and local governments, from 1929 to 1941, is given in the table in the article Bureau of Labor Estimates of Non-agricultural Employment (p. 183).

These figures of public employment do not include employment resulting from the use of public funds in the execution of public contracts by private individuals or agencies. Furthermore they include only the administrative staffs of certain public agencies operating primarily for the emergency relief of unemployment. During the period from 1933 to 1941, these agencies include the Federal Emergency Relief Administration, the Civil Works Administration, the Civilian Conservation Corps, the Works Progress Administration, the Work Projects Administration, and the National Youth Administration. The persons to whom emergency relief employment was furnished by these agencies are not included in the regular tables of public employment; and in estimates of unemployment they are usually classified as unemployed. Accounts of the principal agencies for handling emergency relief employment, together with tabulations showing the amount of employment of this kind, are given in other sections of this publication.

Number of persons in the executive, legislative, and judicial departments and in the military services of the United States Government, 1933 to 1941

[Subject to revision]

Year and month	Executive	Legislative	Judicial	Military ¹
1933.....	587,898	2 4,796	2 1,870	2 264,135
1934.....	677,261	4,719	1,824	257,948
1935.....	778,311	4,938	1,902	269,478
1936.....	843,147	5,149	2,038	301,148
1937.....	850,505	5,196	2,113	321,612
1938.....	852,290	5,229	2,157	335,415
1939.....	916,675	5,405	2,259	369,243
1940.....	1,024,991	5,911	2,461	573,147
1939—January.....	865,608	5,234	2,228	339,680
February.....	875,553	5,284	2,210	340,852
March.....	879,057	5,292	2,317	344,848
April.....	885,975	5,315	2,123	350,610
May.....	903,754	5,336	2,322	354,612
June.....	926,415	5,353	2,292	363,734
July.....	928,865	5,432	2,192	376,326
August.....	934,832	5,532	2,162	372,853
September.....	940,133	5,551	2,282	376,480
October.....	936,562	5,418	2,357	386,216
November.....	935,250	5,583	2,350	402,398
December.....	988,090	5,535	2,268	421,806
1940—January.....	939,296	5,889	2,360	434,745
February.....	939,396	5,883	2,379	449,776
March.....	949,418	5,860	2,379	456,802
April.....	959,972	5,882	2,480	460,969
May.....	980,801	5,851	2,499	464,111
June.....	1,014,117	5,886	2,468	473,680
July.....	1,026,572	5,985	2,535	515,822
August.....	1,039,996	6,011	2,482	549,290
September.....	1,059,984	5,938	2,518	633,589
October.....	1,091,931	5,892	2,529	733,220
November.....	1,114,068	5,932	2,391	821,662
December.....	1,184,344	5,921	2,514	884,094

See footnotes at end of table.

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Number of persons in the executive, legislative, and judicial departments and in the military services of the United States Government, 1933 to 1941—Continued

Year and month	Executive	Legislative	Judicial	Military ¹
1941—January.....	1, 153, 431	5, 985	2, 507	-----
February.....	1, 173, 152	5, 921	2, 505	-----
March.....	1, 202, 348	6, 033	2, 509	-----
April.....	1, 251, 283	6, 015	2, 505	-----
May.....	1, 306, 333	6, 055	2, 517	-----
June.....	1, 370, 110	6, 132	2, 526	-----
July.....	1, 391, 689	6, 142	2, 637	-----
August.....	1, 444, 985	6, 048	2, 578	-----
September.....	1, 487, 925	6, 279	2, 571	-----
October.....	1, 512, 428	6, 242	2, 569	-----

¹ Military services include Army, Navy, Marine Corps, and Coast Guard.

² Average for November and December; other years, average for the 12 months.



Bureau of Labor Statistics Estimates of Nonagricultural Employment

Two series of estimates of nonagricultural employment are compiled monthly by the Bureau of Labor Statistics. The first, "total civil nonagricultural employment," shows the estimated total number of persons engaged in gainful work in the United States in nonagricultural industries, including proprietors and firm members, self-employed persons, casual workers, and domestic servants. The second series, described as "employees in nonagricultural establishments," is limited to employees only and does not include proprietors and firm members, self-employed persons, casual workers, or domestic servants. Persons employed on WPA and NYA projects, enrollees in CCC camps, and military and naval forces are not included. Table 1 shows annual figures for each series from 1929 to 1940, and monthly figures from July 1940 to August 1941. The estimates for "employees in nonagricultural establishments" are shown separately for each of seven major industry groups: (1) Manufacturing, (2) mining, (3) construction, (4) transportation and public utilities, (5) trade, (6) financial, service, and miscellaneous, and (7) government. Data for the military and naval forces, which are excluded from the employment estimates, are also shown.

The totals for the United States are based on the figures shown by the 1930 Census of Occupations for the number of nonagricultural "gainful workers," minus the number shown to have been unemployed for one week or more at the time of the census. In general, they follow the movements and trends shown by the Bureau's employment indexes adjusted periodically to the various industrial censuses and the more recent social security tabulations. The series will be subject to revision as additional data, from the 1939 industrial censuses and from the 1940 Census of Occupations, become available.

Estimates of total nonagricultural employment and employment in nonagricultural establishments, 1929 to 1940 and July 1940 to August 1941

Year and month	Total ¹	Employment (in thousands) in nonagricultural establishments ²							Military and naval personnel	
		Total	Manufacturing	Min-ing and related	Con-struction	Trans- portation and pub- lic util- ities	Trade	Finan- cial ser- vice, and miscel- laneous		Federal, State, and local govern- ments
1929.....	36,448	30,589	10,203	1,064	1,806	3,878	6,404	4,147	3,087	262
1930.....	34,177	28,346	9,087	982	1,422	3,647	6,065	4,028	3,117	263
1931.....	31,256	25,531	7,751	847	1,236	3,221	5,530	3,782	3,166	260
1932.....	28,035	22,452	6,571	706	821	2,789	4,914	3,471	3,180	254
1933.....	28,222	22,672	7,036	714	755	2,647	4,941	3,422	3,156	252
1934.....	30,632	24,877	8,112	844	840	2,727	5,476	3,627	3,251	258
1935.....	31,804	25,965	8,641	855	908	2,762	5,669	3,771	3,359	269
1936.....	33,868	27,824	9,350	896	1,211	2,944	5,941	3,978	3,504	301
1937.....	35,561	29,442	10,273	949	1,148	3,102	6,233	4,144	3,593	322
1938.....	33,362	27,229	8,827	834	1,001	2,835	6,012	4,059	3,662	335
1939.....	34,624	28,480	9,544	791	1,241	2,934	6,144	4,119	3,708	369
1940.....	35,756	29,613	10,170	847	1,337	3,024	6,266	4,173	3,797	573
<i>1940</i>										
July.....	35,454	29,311	9,832	837	1,378	3,059	6,159	4,218	3,828	516
August.....	35,902	29,759	10,163	839	1,443	3,081	6,168	4,226	3,839	549
September.....	36,528	30,385	10,479	846	1,511	3,120	6,321	4,255	3,853	634
October.....	36,867	30,724	10,668	856	1,654	3,121	6,362	4,187	3,876	733
November.....	36,986	30,843	10,735	853	1,709	3,065	6,433	4,167	3,881	822
December.....	37,608	31,465	10,856	855	1,720	3,039	6,884	4,180	3,931	884
<i>1941</i>										
January.....	36,621	30,478	10,797	852	1,623	3,012	6,165	4,142	3,887	958
February.....	36,928	30,785	10,982	854	1,678	3,028	6,173	4,164	3,906	1,145
March.....	37,227	31,084	11,152	864	1,631	3,056	6,259	4,187	3,935	1,343
April.....	37,676	31,533	11,370	864	1,775	3,113	6,463	4,265	3,983	1,646
May.....	38,306	32,163	11,537	862	1,782	3,185	6,421	4,327	4,049	1,662
June.....	38,860	32,717	11,777	876	1,816	3,239	6,530	4,353	4,126	1,740
July.....	39,281	33,138	11,995	888	1,895	3,290	6,512	4,394	4,164	1,857
August.....	39,626	33,483	12,168	900	1,921	3,326	6,564	4,394	4,210	1,944

¹ Includes proprietors, firm members, self-employed persons, casual workers, and domestic servants. Does not include military and naval personnel.

² Excludes self-employed persons, casual workers, domestic servants, and military and naval personnel



WPA Estimates of Employment and Unemployment

The WPA estimates of employment and unemployment are based on a monthly survey of a carefully selected cross section of the population. The same definitions and in general the same enumeration procedures are used as were used in the population census of 1940. These estimates begin with April 1940 and are shown by months in table 1.

TABLE 1.—Estimated civilian labor force, employment, and unemployment, April 1940 to October 1941

Month and year	Estimated number (mil- lions of persons)			Month and year	Estimated number (mil- lions of persons)		
	Labor force	Em- ployed	Unem- ployed ¹		Labor force	Em- ployed	Unem- ployed ¹
<i>1940</i>							
April.....	53.9	45.1	8.8				
May.....	54.7	46.3	8.4				
June.....	56.3	47.7	8.6				
July.....	57.0	47.7	9.3				
August.....	56.7	47.8	8.9				
September.....	55.2	48.1	7.1				
October.....	54.8	47.4	7.4				
November.....	53.9	46.3	7.6				
December.....	53.2	46.1	7.1				
<i>1941</i>							
January.....	52.8	45.2	7.5	January.....	52.8	45.2	7.5
February.....	52.7	45.5	7.2	February.....	52.7	45.5	7.2
March.....	52.4	45.6	6.8	March.....	52.4	45.6	6.8
April.....	53.3	46.7	6.6	April.....	53.3	46.7	6.6
May.....	54.0	48.3	5.7	May.....	54.0	48.3	5.7
June.....	55.7	49.8	5.9	June.....	55.7	49.8	5.9
July.....	56.0	50.4	5.6	July.....	56.0	50.4	5.6
August.....	55.8	50.5	5.3	August.....	55.8	50.5	5.3
September.....	54.3	49.8	4.5	September.....	54.3	49.8	4.5
October.....	53.5	49.6	3.9	October.....	53.5	49.6	3.9

¹ Includes persons on public emergency work projects, including NYA student work projects.

The WPA estimates of employment as presented in the second column of table 1 are broader in scope than those of the Bureau of Labor Statistics (given in the preceding article) in that they include farm employment as well as persons in nonagricultural pursuits. The Bureau's estimates of nonagricultural employment provide a means of throwing into proper perspective the significant fluctuations in basic industrial and business employment, where changes are measured currently with a high degree of accuracy. The WPA monthly sample survey of individual households, on the other hand, utilizes the only satisfactory method of directly measuring the fluctuations in the size of the labor force and in unemployment, and reflects in the employment total the changes resulting from the miscellaneous temporary activities of students during the summer vacation period, which because of their irregular and casual nature are not caught directly by the reporting techniques employed by the Bureau of Labor Statistics.

Comparison With 1940 Census

In order to make possible direct comparison with census figures, the April 1940 survey was arranged to coincide with the census date. Comparisons between the two sets of data indicate fairly close agreement, as shown in the following figures. There is only an insignificant difference between employment totals shown by the two surveys, though the WPA unemployment and labor-force figures are both somewhat higher than the preliminary census estimates. Part of this difference appears to be due to the fairly large group whose labor-market status was reported as "unknown" in the preliminary census reports. Moreover, the census total for public emergency workers was about 1 million less than the number on the pay rolls of Federal emergency work agencies at the time of the census, while the similar undercount in the WPA survey appears to have been considerably smaller. Final tabulations by the census will probably reduce the number of unknown and misclassified items, and thereby bring the two sets of data into closer agreement.

	WPA (millions)	Census ¹ (millions)
Total noninstitutional civilian population 14 years of age and older.....	99.4	99.4
Labor force.....	53.9	52.5
Employed.....	45.1	45.0
At work.....	43.7	43.7
Not at work but having jobs.....	1.4	1.3
Unemployed.....	8.8	7.5
On public emergency work.....	2.7	2.4
Seeking work.....	6.1	5.1
Not in labor force.....	45.4	45.1
Engaged in home housework.....	29.4	28.8
At school.....	9.3	9.1
Unable to work.....	5.1	5.2
Other.....	1.6	2.0
Labor-market status unknown.....	.1	1.8

¹ Sixteenth Census of the United States, 1940, Release P-4, No. 5. (April 25, 1941.) Figures for total population, labor force, and employed exclude an estimated 355 000 men in the armed forces in continental United States. Figures for total population and persons not in labor force exclude 1,226,000 persons in institutions.

Employment Conditions

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 Edition.

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Preliminary Census Report on Employment, Unemployment, and the Labor Force, March 1940

There were 52,841,000 workers in the labor force in the United States during the week of March 24–30, 1940, according to preliminary figures compiled by the Bureau of the Census, United States Department of Commerce. These workers were classified as follows: 44,353,000 were employed on private or nonemergency Government work; 2,906,000 were employed on public emergency projects (WPA, NYA, and CCC), excluding those enrolled in the NYA student-work program, the number when these are included being 3,378,000; and 5,110,000, without any form of public or private employment, were seeking work.¹

The preliminary census tabulations indicate a tendency to classify incorrectly some of the workers employed on public emergency projects. Some emergency workers probably reported themselves as employed on nonemergency Government work or even on private work, and there was frequent uncertainty in the minds of workers and their families or of the census enumerators concerning the proper classification of certain types of project work. The figures given above are therefore adjusted to take account of the numbers engaged on public emergency projects as shown by the records of these projects.

The 1940 census of employment differs in important respects from the 1930 occupational census. In 1940, the term "labor force" was used in place of the term "gainful workers" or persons with "gainful occupations." In the 1930 census, gainful workers were persons reported as following a gainful occupation—that is, "an occupation by which the person who pursues it earns money or a money equivalent, or in which he assists in the production of marketable goods"—regardless of whether the persons were working or even seeking work at the time of the census. The concept of the labor force in 1940 included only those persons who, in the week of the census (March 24–30), were actually working or were seeking work or had a job at which they were not actually working during the census week because of vacation, illness, or other temporary conditions. The labor force as defined in 1940 thus excluded certain types of persons, such as retired persons, some inmates of institutions, persons recently disabled, and (particularly important) inactive seasonal workers who were ordinarily included in the earlier censuses under the definition of gainful workers. The labor force, however, was defined to include persons seeking work without previous work experience; that is, new workers. The term "labor force" is more specific than the term "gainful workers" and may

¹ U. S. Department of Commerce, Bureau of the Census. Series P-4, Nos. 1-6. A preliminary summary appeared in the Monthly Labor Review for January 1941 (p. 102). The monthly series of WPA estimates of unemployment beginning in April 1940 and linked to the census data was described in the Monthly Labor Review for October 1941 (pp. 893-899). For a summary of this article, see another section of this volume.

be used to take account of the variable number of persons available for employment, as for example, the considerable number of persons of school age who work in vacation periods. It is this flexible concept that was used in the development of the WPA's monthly estimates of the labor force, the number of persons employed, and the number unemployed.

The preliminary census reports indicate that in March 1940 52.3 percent of the total population 14 years old and over were in the labor force at that time. The number employed, except on public emergency work, formed 83.9 percent of the total labor force; the number employed on public emergency projects, including the NYA student-work program, formed 6.4 percent; and the number seeking work (5,110,000), 9.7 percent.

The population 14 years of age and over not a part of the labor force consisted of 48,131,000 persons, representing 47.7 percent of the total population 14 years old and over. These included 28,838,000 persons engaged in home housework, 9,071,000 persons attending school, 5,220,000 persons unable to work, 1,226,000 inmates of institutions, 1,986,000 persons who for other reasons were not working or seeking work, and 1,789,000 persons whose employment status during the census week could not be determined. It is believed that the majority of the group whose status could not be determined were not in the labor force. Tabulations of the final data will provide information on the basis of which the employment status of most of the persons in this group can be established with substantial accuracy.



National Unemployment Census, 1937

A census of partial and total unemployment in the United States was conducted November 16 to November 20, 1937, under authority of an act of Congress approved August 30, 1937. The undertaking was carried out by a temporary organization created by the act, of which John D. Biggers was appointed administrator. The legislation provided that the furnishing of the information should be voluntary—a voluntary registration offering the possibility of securing essential data more expeditiously and at less cost than a national enumerative census. However, from the very beginning it was realized that entire reliance could not be placed on the voluntary registration of the unemployed, and an enumerative test census of 1,950,000 people representing a cross section of the United States was conducted for the purpose of appraising the completeness and accuracy of the voluntary registration. This test census indicated that the voluntary registration November 16 to 20, 1937, of totally unemployed (including emergency workers), was 72 percent complete. Allowing for the variation between results of the two censuses, it was estimated that the maximum number who regarded themselves as unemployed was approximately 10,870,000.

The final report of the returns of the voluntary registration was published in three volumes, the first being the source of the present article.¹

Of the 7,845,016 persons voluntarily registered as unemployed, 2,011,615 were workers on emergency relief programs. The number of females who reported themselves as totally unemployed or on emergency relief work in the voluntary registration, and who are included in the totally unemployed, was 2,028,041.

The number in the 48 States and the District of Columbia registered as totally unemployed and wanting work (not including persons on emergency work) was 5,833,401. The registration was as low as 3,085 in Nevada and as high as 765,039 in New York. Slightly over one-half of the unemployed wanting work were in 8 States—New York (765,039), Pennsylvania (568,214), Illinois (339,307), Ohio (305,275), California (258,750), Massachusetts (248,833), Texas (229,502), and New Jersey (216,695), as reported in table 1.

TABLE 1.—Persons who registered in the 1937 unemployment census as totally unemployed or on emergency work

Division and State	Unemployed, including emergency workers			Totally unemployed			Emergency workers		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
United States.....	7,845,016	5,816,975	2,028,041	5,832,401	4,143,194	1,690,207	2,011,615	1,673,781	337,834
New England.....	565,394	395,431	169,963	436,166	289,895	146,271	129,228	105,536	23,692
Middle Atlantic.....	2,012,471	1,508,346	504,125	1,549,948	1,109,691	440,257	462,523	398,655	63,868
East North Central.....	1,469,281	1,139,422	329,859	1,086,048	802,698	283,350	383,233	336,724	46,509
West North Central.....	753,271	582,506	170,765	514,875	382,079	132,796	238,396	200,427	37,969
South Atlantic.....	868,660	578,833	289,827	649,988	411,734	238,254	218,672	167,099	51,573
East South Central.....	654,567	460,865	193,702	499,896	334,563	165,333	154,671	126,302	28,369
West South Central.....	736,526	546,608	189,918	533,409	386,156	147,253	203,117	160,452	42,665
Mountain.....	240,282	185,619	44,663	155,617	125,373	30,244	84,665	70,246	14,419
Pacific.....	544,564	409,345	135,219	407,454	301,005	106,449	137,110	108,340	28,770
New England:									
Maine.....	43,903	32,821	11,082	37,844	27,586	10,258	6,059	5,235	824
New Hampshire.....	32,259	21,722	10,537	25,600	16,394	9,206	6,659	5,328	1,331
Vermont.....	14,334	10,975	3,359	10,181	7,596	2,585	4,153	3,379	774
Massachusetts.....	327,907	225,412	102,495	248,833	162,232	86,601	79,074	63,180	15,894
Rhode Island.....	58,568	39,916	18,652	43,678	27,438	16,240	14,890	12,478	2,412
Connecticut.....	88,423	64,585	23,838	70,030	48,649	21,381	18,393	15,936	2,457
Middle Atlantic:									
New York.....	972,522	718,408	254,114	765,039	538,776	226,263	207,483	179,632	27,851
New Jersey.....	287,424	216,485	70,939	216,695	155,751	60,944	70,729	60,734	9,995
Pennsylvania.....	752,525	573,453	179,072	568,214	415,164	153,050	184,311	158,289	26,022
East North Central:									
Ohio.....	411,069	316,183	94,886	305,275	223,307	81,968	105,794	92,876	12,918
Indiana.....	186,667	145,778	40,889	133,229	97,708	35,521	53,438	48,070	5,368
Illinois.....	462,318	354,027	108,291	339,307	246,446	92,861	123,011	107,581	15,430
Michigan.....	249,709	195,327	54,382	195,533	147,569	47,964	54,176	47,768	6,418
Wisconsin.....	159,518	128,107	31,411	112,704	87,668	25,036	46,814	40,439	6,375
West North Central:									
Minnesota.....	144,288	114,721	29,567	98,495	75,524	22,971	45,793	39,197	6,596
Iowa.....	85,561	67,335	18,226	61,676	46,874	14,802	23,885	20,461	3,424
Missouri.....	256,892	189,323	67,569	192,166	133,840	58,326	64,726	55,483	9,243
North Dakota.....	45,774	37,964	7,810	27,009	22,378	4,631	18,765	15,586	3,179
South Dakota.....	50,181	40,151	10,030	26,296	20,711	5,585	23,885	19,440	4,445
Nebraska.....	71,056	55,715	15,341	44,839	33,478	11,361	26,217	22,237	3,980
Kansas.....	99,519	77,297	22,222	64,394	49,274	15,120	35,125	28,023	7,102

¹ United States. Census of Partial Employment, Unemployment and Occupations, 1937. Final Report; Vol. I, United States Summary, Geographic Divisions, and States from Alabama to Indiana; Vol. II, States from Iowa to New York; Vol. III, States from North Carolina to Wyoming, Alaska, and Hawaii. Washington, 1938.

TABLE 1.—Persons who registered in the 1937 unemployment census as totally unemployed or on emergency work—Continued

Division and State	Unemployed, including emergency workers			Totally unemployed			Emergency workers		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
South Atlantic:									
Delaware.....	11,337	8,370	2,967	9,017	6,598	2,419	2,320	1,772	548
Maryland.....	71,546	53,030	18,516	58,341	41,555	16,786	13,205	11,475	1,730
District of Columbia.....	47,416	26,046	21,370	37,615	19,058	18,557	9,801	6,988	2,813
Virginia.....	112,878	73,935	38,943	84,720	53,510	31,210	28,158	20,425	7,733
West Virginia.....	121,594	99,383	22,211	87,217	69,932	17,285	34,377	29,451	4,926
North Carolina.....	126,351	77,892	48,459	95,268	55,384	39,884	31,083	22,508	8,575
South Carolina.....	103,560	65,616	37,944	73,715	44,428	29,287	29,845	21,188	8,657
Georgia.....	167,210	106,193	61,017	130,661	78,626	52,035	36,549	27,567	8,982
Florida.....	106,768	68,368	38,400	73,434	42,643	30,791	33,334	25,725	7,609
East South Central:									
Kentucky.....	198,187	143,966	54,221	143,502	98,651	44,851	54,685	45,315	9,370
Tennessee.....	148,891	104,503	44,388	116,810	76,702	40,108	32,081	27,801	4,280
Alabama.....	188,307	129,051	59,256	149,778	98,355	51,423	38,529	30,696	7,833
Mississippi.....	119,182	83,345	35,837	89,806	60,855	28,951	29,376	22,490	6,886
West South Central:									
Arkansas.....	126,533	97,038	29,495	92,269	67,930	24,339	34,264	29,108	5,156
Louisiana.....	130,353	96,427	33,926	97,281	69,410	27,871	33,072	27,017	6,055
Oklahoma.....	173,605	134,466	39,139	114,357	85,838	28,519	59,248	48,628	10,620
Texas.....	306,035	218,677	87,358	229,502	162,978	66,524	76,533	55,699	20,834
Mountain:									
Montana.....	48,626	40,423	8,203	28,415	22,903	5,512	20,211	17,520	2,691
Idaho.....	25,868	21,973	3,895	18,597	15,770	2,827	7,271	6,203	1,068
Wyoming.....	10,901	8,733	2,168	7,680	6,369	1,311	3,221	2,364	857
Colorado.....	67,798	52,071	15,637	44,568	34,156	10,412	23,140	17,915	5,225
New Mexico.....	30,836	26,741	4,095	21,287	18,346	2,941	9,549	8,395	1,154
Arizona.....	21,886	17,440	4,145	13,069	10,227	2,842	8,516	7,213	1,303
Utah.....	29,919	24,289	5,630	18,916	15,036	3,880	11,003	9,253	1,750
Nevada.....	4,839	3,949	890	3,085	2,566	519	1,754	1,333	371
Pacific:									
Washington.....	121,334	98,528	22,806	90,272	71,621	18,651	31,062	26,907	4,155
Oregon.....	73,006	59,006	13,999	58,432	46,646	11,786	14,573	12,360	2,213
California.....	350,225	261,811	88,414	258,750	182,738	76,012	91,475	69,073	22,402

Persons Partly Unemployed

Persons who registered as partly employed and wanting more work numbered 3,219,502, of whom 2,657,917 were males and 561,585 were females. That the voluntary registration of those partly unemployed was only 57 percent complete was indicated by the subsequent test census. The Middle Atlantic States, including New York, New Jersey and Pennsylvania had the largest number of partly unemployed, totaling 718,145, of which number 584,987 were males and 133,158 were females. New York had the highest State total of partly employed who wanted more work—322,161, including 253,156 males and 69,005 females. Pennsylvania was second with a total of 301,087, of whom 258,473 were males and 42,614 were females. The registration returns, showing partially unemployed by geographical divisions and States, are given in table 2.

TABLE 2.—Persons who registered in the 1937 unemployment census as partly unemployed

Division and State	Total	Males	Fe- males	Division and State	Total	Males	Fe- males
United States.....	3, 219, 502	2, 657, 917	561, 585	South Atlantic:			
New England.....	265, 656	195, 990	69, 666	Delaware.....	4, 329	3, 511	818
Middle Atlantic.....	718, 145	584, 987	133, 158	Maryland.....	28, 069	22, 765	5, 304
East North Central.....	580, 755	501, 421	79, 334	District of Columbia.....	12, 174	7, 258	4, 916
West North Central.....	307, 875	264, 525	43, 350	Virginia.....	53, 442	43, 149	10, 293
South Atlantic.....	405, 716	314, 760	90, 956	West Virginia.....	37, 839	34, 282	3, 557
East South Central.....	302, 684	250, 295	52, 389	North Carolina.....	79, 522	58, 517	21, 005
West South Central.....	336, 870	286, 941	49, 929	South Carolina.....	51, 559	39, 687	11, 872
Mountain.....	84, 602	75, 631	8, 971	Georgia.....	88, 064	66, 239	21, 825
Pacific.....	217, 199	183, 367	33, 832	Florida.....	50, 718	39, 352	11, 366
New England:				East South Central:			
Maine.....	29, 089	23, 727	5, 362	Kentucky.....	63, 752	54, 080	9, 672
New Hampshire.....	21, 659	15, 937	5, 722	Tennessee.....	69, 314	57, 344	11, 970
Vermont.....	7, 800	6, 587	1, 303	Alabama.....	104, 031	84, 268	19, 763
Massachusetts.....	136, 111	98, 553	37, 558	Mississippi.....	65, 587	54, 603	10, 984
Rhode Island.....	28, 276	18, 376	9, 900	West South Central:			
Connecticut.....	42, 631	32, 810	9, 821	Arkansas.....	67, 497	58, 647	8, 850
Middle Atlantic:				Louisiana.....	61, 252	51, 709	9, 543
New York.....	322, 161	253, 156	69, 005	Oklahoma.....	61, 693	53, 580	8, 113
New Jersey.....	94, 897	73, 358	21, 539	Texas.....	146, 428	123, 005	23, 423
Pennsylvania.....	301, 087	258, 473	42, 614	Mountain:			
East North Central:				Montana.....	13, 669	12, 267	1, 402
Ohio.....	178, 592	154, 677	23, 915	Idaho.....	12, 735	11, 709	1, 026
Indiana.....	86, 693	75, 966	10, 727	Wyoming.....	4, 814	4, 366	448
Illinois.....	163, 173	138, 892	24, 281	Colorado.....	23, 867	20, 975	2, 892
Michigan.....	89, 025	77, 281	11, 744	New Mexico.....	7, 987	7, 175	814
Wisconsin.....	63, 272	54, 605	8, 667	Arizona.....	6, 549	5, 666	883
West North Central:				Utah.....	13, 607	12, 249	1, 358
Minnesota.....	56, 137	48, 556	7, 581	Nevada.....	1, 374	1, 226	148
Iowa.....	50, 487	44, 130	6, 357	Pacific:			
Missouri.....	104, 695	87, 529	17, 166	Washington.....	49, 860	43, 981	5, 879
North Dakota.....	12, 576	11, 283	1, 293	Oregon.....	31, 329	27, 332	3, 997
South Dakota.....	15, 202	13, 400	1, 802	California.....	136, 010	112, 054	23, 956
Nebraska.....	29, 669	25, 650	4, 019				
Kansas.....	39, 109	33, 977	5, 132				



Unemployment in a Depressed Coal-Mining Area¹

Pronounced differences in the severity of unemployment are to be found within as well as between the major industrial areas of the country. In some of the more populous States deep pockets of unemployment exist and persist almost unnoted because of the small weight they have in determining State unemployment totals. Thus, the Unemployment Registration Census of 1937 showed that unemployment was 1½ to more than 2 times as severe in the coal-producing counties of southern Illinois as it was in the State as a whole. When further inquiry shows that these "black spots" of unemployment are the result of economic dislocations peculiar to the locality, the unusually high rate of unemployment implies the existence of what may well be called a "problem" or "depressed" area.

In the survey of the southern Illinois coal fields extensive use was made of newspaper files, mortgage foreclosures, real-estate transfers, production, and court records, pay rolls, corporation accounts, and

¹ Abstract of an article by John N. Webb, Division of Research, Works Progress Administration, in the Monthly Labor Review for December 1939 (p. 1295). This article was based upon an unemployment census taken in connection with a survey of the depressed coal-mining area of southern Illinois made by the Division of Research, WPA. For a preliminary report on this survey, see Work Projects Administration, Seven Depressed Coal Towns, by Malcolm Brown and John N. Webb, Washington, 1939.

similar sources of year-by-year events. One essential type of information, however, could not be obtained from any existing source: The amount and the duration of unemployment among the coal miners at the time of the survey; and the personal characteristics, family composition, dependence upon public assistance, and allied data for the total population.

One of the first steps taken in this survey, therefore, was a census of unemployment and population. Seven towns in three counties were selected. The towns chosen were Herrin, Johnston City, and Bush in Williamson County; West Frankfort and Zeigler in Franklin County; and Eldorado and Carriers Mills in Saline County. A census of their inhabitants was begun in December 1938 and completed in March 1939. The results of that census are reported in this article.

In order to bring out the aspects of unemployment that are characteristic of a depressed area, frequent comparison will be made between the figures obtained from the 7-town census and figures from 3 cities—Birmingham, Ala., Toledo, Ohio, and San Francisco, Calif.—having more nearly normal economic conditions, wherein a comparable survey of unemployment was made at about the same time.

Total Population

The population of the seven towns had either declined or remained almost stationary during the 9 years following the Federal Census of 1930. Four of the 7 towns had lost a total of 3,451 persons, and in the other 3 (Bush, Carriers Mills, and Eldorado) the increase totaled only 286 persons. The net loss in all 7 towns was 8 percent over the 9-year period.

Roughly, two out of five persons in the population of all of the towns except Bush (one out of three) were found to be workers, that is, they came within one of three categories—employed persons, unemployed persons actively seeking work, or persons normally employed but temporarily neither working nor seeking work.

Compared with the labor force of the three cities of Birmingham, Toledo, and San Francisco, in which a survey of unemployment was made at about the same time, the labor force of the seven coal towns formed a distinctly smaller proportion of the total population. The difference, however, was largely explained by a much smaller percentage of women in the labor supply of the coal towns.

Extent of Unemployment

Over two-fifths of the labor force of the seven coal towns was unemployed at the time the census was taken. Large as it is, this figure does not tell the whole story. The census was taken during the peak months of seasonal activity in the mines.² In addition, this figure does not report underemployment (divided time) which was par-

² An index of seasonal variation in coal tonnage produced in Franklin, Saline, and Williamson Counties for the 15-year period 1922-37 shows that the peak of activity occurs between October and March, and the low point between April and August. Peak activity is regularly more than double the activity at the slack period. The census of the seven coal towns in these counties was started in December 1938 and completed in March 1939.

ticularly prevalent in the mines that were still operating. The labor force of the seven towns, and percentage of total unemployment as well as that for each sex, are shown in table 1.

TABLE 1.—*Size of labor force and percent unemployed, by sex, in 7 towns in southern Illinois coal fields*

Town	Total labor force	Percent unemployed		
		Total	Men	Women
All 7 towns.....	15,698	42	40	48
Bush.....	219	80	79	84
Johnston City.....	2,120	60	60	58
Carriers Mills.....	869	45	42	56
Herrin.....	4,087	38	37	45
West Frankfort.....	5,226	38	37	41
Zeigler.....	1,225	37	33	55
Eldorado.....	1,952	35	30	50

About 40 percent of the men in the labor supply and 48 percent of the women were out of work.

Underemployment can be nearly as serious as complete lack of work. In the coal mines of southern Illinois "divided time" is a very common practice of spreading what work does exist. In fact, this device has become so much a policy of the miners' union that it is frequently included in the working contract with the operators. The extensive practice of divided time in the seven towns is clearly shown by a comparison of the 22 percent of underemployment (i. e., less than 30 hours per week)³ there with 14 percent in Birmingham, 12 percent in Toledo, and 11 percent in San Francisco.

The Unemployed

The unemployed of the seven towns—42 percent of the labor force—fell readily into three easily distinguished groups. By far the largest group was employed on the Works Program;⁴ three out of five unemployed workers had such jobs.

The proportion of unemployed workers on the Works Program was unusually high in the seven towns. For the country as a whole an estimated 20 to 25 percent of the unemployed had Works Program jobs at about the same time the figures for the southern Illinois coal towns and the three cities were secured. In contrast, the smallest percentage among the seven coal towns was 51 percent in West Frankfort, and the largest was 73 percent in Bush.

The extremely high proportion of employed workers on the Works Program in the seven coal towns is another indication of the depressed nature of the area in which they are located. The turn-over of workers is low; the hard core of unemployment is unduly large; and the normal activities of job seeking on the part of the unemployed have little chance of success.

³ Since only 60 percent of the total labor was employed in private industry, the amount of underemployment rises to 38 percent when computed on the basis of workers with jobs.

⁴ As used here, this term includes the WPA, NYA, CCC, and other emergency work programs of the Federal Government. Of these, the WPA is by far the largest.

Active job seekers who had neither private nor Works Program employment made up the second largest group among the unemployed in the seven towns. About one-quarter (26 percent) of the unemployed were in this group, approximately one-half the proportion that was found in Birmingham, Toledo, and San Francisco. One reason for this marked contrast in groupings among the unemployed will be evident when data on duration of unemployment are presented.⁵

The third group among the unemployed was made up of jobless workers who were temporarily out of the labor market. In the seven coal towns about one-seventh of the unemployed were inactive at the time of the census. This is a distinctly smaller proportion than will be found in most communities.

To an important degree, the smaller proportion of inactive workers among the unemployed of the coal towns is related to the very large proportion of unemployed workers on the Works Program. Were it not that the Works Program provided jobs for so large a number of the unemployed, the proportion of inactive workers would undoubtedly have been much larger.

Nearly half of the inactive unemployed were neither working nor looking for work during the week of the census because they were convinced that there were no jobs to be had. With the principal industry, mining, offering less and less in the way of job opportunities, many of the displaced miners turned to the Works Program as the only alternative to an enforced idleness. Miners, particularly the older ones, found themselves with a particular skill that was of no use any place except the mines. Even if alternative employment were available, the chances of their being acceptable to other industries were remote because of the large surplus of younger workers in the area.

Second in importance as a reason for workers becoming inactive in the seven towns was temporary illness or disability. This is a reason found in every community.

The remaining reasons for inactive workers in the seven coal towns were largely industrial in nature. Some workers with jobs in private employment were not working during the census week because of machinery break-down, shortage of material, bad weather, etc. Likewise, some workers were on temporary lay-off and would return to their jobs shortly. A few workers with jobs in seasonal industries were waiting for the resumption of normal activity.

Age and Unemployment

The younger and the older workers suffer most from unemployment. The young lack experience, and in an overcrowded labor market many employers are reluctant to make the small investment required for training a new worker. The old, on the contrary, have experience but, in the judgment of many companies, experience does not compensate for a decline in physical vigor and, particularly with miners, for the cost of retraining. The older worker is the one worst hit by mechanization of mining, in which the substitution of mechanical for manual operations has made great strides. When men are

⁵ See p. 195.

replaced by machines some manual workers must be taught machine operation. Not only is there a general belief that the older worker is slow to learn "new tricks," but when employers do retrain they tend to prefer younger workers with some industrial experience.

TABLE 2.—*Age and unemployment in 7 Illinois coal towns*

Town	Percent of workers unemployed in each age group		
	Under 25 years	25 to 55 years	55 years and over
All 7 towns.....	58	34	44
Bush.....	88	75	87
Johnston City.....	74	51	63
Carriers Mills.....	57	36	53
Herrin.....	60	32	32
West Frankfort.....	54	30	45
Zeigler.....	52	28	53
Eldorado.....	49	29	32

The relationship between age and unemployment shown in the preceding table is, in general, much the same as in any community. In the seven coal towns, however, the percentages are larger; moreover, in most communities the case for youth, bad as it is, has one relieving feature; with any future improvement in conditions these young people constitute the labor supply which will inevitably be drawn into productive operations—a prospect denied the older workers who have only a few productive years left. But in a depressed area, the young workers are in by far the worse position because there is nothing to look forward to—no hope of improved conditions to bolster their morale. Over one-third of the new generation in the seven towns have come to the best years of their productive life without ever having held a private job. The evidence is shown in the following statement which gives the proportion of workers under 25 who have never had a job in private employment.

	<i>Percent</i>
All 7 towns.....	38
Bush.....	52
Johnston City.....	50
Carriers Mills.....	33
Herrin.....	42
West Frankfort.....	34
Zeigler.....	33
Eldorado.....	28

Duration of Unemployment

The same conditions that are responsible for a long period of economic depression, such as has persisted in this country since 1930, produce important changes in the composition of the surplus labor supply. Starting as a fairly representative cross section of the total working force, with a relatively short duration of unemployment, the unemployed gradually accumulate an undue proportion of workers who are jobless because of technological changes, long-run trends in industry, age restrictions in hiring policies, obsolete skills, personality

difficulties, and so forth. Under these conditions, figures on duration of unemployment differentiate sharply the special groups among the unemployed.

The relationship between length of time out of work and the likelihood of reemployment is so close that some of the major aspects of the unemployment problem can be identified by figures on duration of enforced idleness. For instance, the "hard core" of unemployment consists of the long-time unemployed who for industrial or personal reasons have small likelihood, under ordinary conditions, of recall to private industry.

For the seven coal towns, two figures should be considered together; 42 percent of the labor supply was jobless, and the average (median) time elapsed since their last full-time job⁶ in private industry was 3¼ years. The average (median) number of months elapsed since the last full-time job ended is shown, for each of the seven towns, in the statement following.

	<i>Average (median), in months</i>
All 7 towns-----	39
Bush-----	over 61
Johnston City-----	36
Carriers Mills-----	30
Herrin-----	41
West Frankfort-----	38
Zeigler-----	over 61
Eldorado-----	23

But there is a still worse side of this story. The average of 2¼ years' duration of unemployment is based upon all unemployed workers in the seven towns who had held a full-time job in private industry. When the unemployed workers whose usual occupation was coal mining are considered separately, the average rises to over 5 years.

Unemployment and the Family

The family is an economic as well as a social unit. Its economic resources, as far as employment is concerned, depend upon the number of workers it contains. Under ordinary circumstances two persons looking for work are more likely to find a job than one; therefore, the more workers a family has the better are its chances of having some income from employment. In the seven coal towns about two-thirds of the families had only one worker, one-quarter had two or more, and nearly one-tenth had no worker at all.

Unemployment hits the one-worker family hardest. Of course, the distress of families with no workers is equally bad if not worse, but families without any workers present a problem that is not the immediate result of unemployment.

It is the families with one or more workers, but with none of these employed, that represent the central problem of unemployment. In

⁶ This was defined as a job lasting at least 2 weeks with 30 hours or more employment each week. Duration of unemployment could not, of course, be computed for the large proportion (38 percent) of new workers who had never held a full-time job in private employment.

the seven coal towns somewhat more than one-third of the families with workers had no one employed. The statement below shows, for each of the seven towns, the percent of families with one or more workers which had no workers in private employment.

	<i>Percent of families without private employment</i>
All 7 towns-----	35
Bush-----	74
Johnston City-----	54
Carriers Mills-----	39
Herrin-----	33
West Frankfort-----	31
Zeigler-----	31
Eldorado-----	28

Among the families of the seven coal towns, as elsewhere in the country, those with more than one worker available for employment had a distinct advantage; 40 percent of the families with only one available worker were without private employment compared with only 25 percent among families with two or more workers available for jobs.



Problems of a Stranded Population: Brazil, Ind.¹

The defense program has focused attention on problems of increasing productive capacity and the supply of certain types of skilled labor required to produce aircraft, machine tools, and other essentials of the program. These developments need not obscure the continued existence of depression and unemployment in various industries and areas, for their problems are not solved even temporarily by expansion of defense industries. Worked-out mining regions, cut-over timber lands, and declining centers of the manufacture of specialized products for which there has been a failing market have left stranded populations and grave economic and social problems, untouched in many instances by expansion of the defense industries. Studies of some of these problem areas were made by the National Research Project of the Work Projects Administration, and among these was a survey of Brazil, Ind.² The study includes a background of the industrial history of the community and a special analysis of conditions in 1936, a recovery year.

The region of Brazil, Ind., was at one time the center of a flourishing lumber industry. Before 1890, lumbering, supplemented by agriculture, formed the main basis of the prosperity of the region. During the last decade of the nineteenth century, lumbering there lost its importance because of the prevailing method of rapidly cutting

¹ From the Monthly Labor Review for September 1940 (p. 588).

² U. S. Work Projects Administration. National Research Project. Studies of the Effects of Industrial Change on Labor Markets, Report No. L-9: Employment and Unemployment in a Depressed Labor Market, Brazil, Ind., by Miriam E. West, Edward J. Fitzgerald, and George L. Bird. Washington, 1940. This report is one of a series by the National Research Project, under the direction of David Weintraub, on Reemployment Opportunities and Recent Changes in Industrial Techniques.

over the area and making no provision for production on a sustained-yield basis. While the lumbering industry was declining, coal mining was expanding and was the main basis of the prosperity of the community up to about 1910. The coal-mining industry after that date began to decline, as did the metalworking industries that had grown up with coal mining. In the meantime, however, the clay deposits of the area were being developed, and the clay-products industry in part took the place of coal mining and the metalworking industries. The clay-products industry maintained a considerable degree of prosperity during the twenties, but the depression beginning in 1929 forced a great contraction of this industry. With its decline, unemployment increased rapidly, and in the absence of industries to take its place, the community was confronted by depression problems that failed to yield to the general stimulus of recovery.

The coal mines of Clay County, in which Brazil is located, produced 1,370,402 tons of coal in 1920, and employed 1,633 workers. The amount produced in 1936 was 1,077,917 tons, 21 percent less than in 1920, and the number of workers employed was 886, 46 percent less than in 1920. In the manufacture of clay products, Clay County, with establishments located in Brazil and Carbon, employed 1,481 wage earners in 1929, and this number fell to 140 in 1933, rising slightly to 263 in 1935. There were 10 clay-products establishments in 1929 and 6 in 1935. The rise of the clay-products industry in the Brazil area after the World War was an accompaniment of the building and construction boom of the twenties. The plants in Brazil made face brick and building tile, widely used in modern steel-framed, concrete-floored structures. The excellent railroad transportation facilities of the area enabled the establishments that made these products to expand their markets beyond the local area. The manufacture of clay conduits for telephone lines, much in demand during the twenties, maintained the local clay-products industry until 1929, after the passing of the peak of demand for face brick and building tile. When the demand for clay conduits fell off, Brazil was confronted by a grave situation, in which its main industry was subject to the extreme effects of the depression, without alternative industries to take up the slack.

Although Brazil is a small community, its experiences may be viewed as typical of many communities, large and small, in every section of the country where depression and the long-term decline of industries have combined to leave stranded populations. The main results and conclusions of the survey of conditions in Brazil are summarized as follows by the Assistant Commissioner in his letter of transmittal of the study to the Commissioner of Work Projects.

This report shows that during a recovery year like 1936 unemployment was widespread in the community of Brazil. More than a third of the employables were unemployed, and almost half of the households with some employables had at least one member unemployed or employed only part time. This widespread unemployment and underemployment covered a variety of situations, each of which presents different problems for a relief administration.

In the first place, the lack of employment opportunities in the region had led to the creation of a large, untapped reservoir of labor—new workers who had never succeeded in finding even a first job. These constituted 6 percent of the

employables in the community but accounted for almost a fifth of its unemployed. Further, there was evident a tendency toward the emergence of a sizable group of chronically unemployed persons. This was reflected in the high proportion of the unemployed who had been out of work for long periods. Of these previously employed in the community, who were unemployed in 1936, more than three-quarters had been without jobs for a year or more. A third had been continuously out of work for 5 years or more. Many of these were older workers. A large number of them were former clay workers who had been unable to find other employment in a labor market of restricted opportunity and large reserve forces, and had not been recalled to the clay-products industry. Others, from other industries, were workers whom the decline of the community's industrial life had gradually pushed into the unemployed group. The continued low level of activity in their own industries and their inability to find other work were transforming them into chronically unemployed persons.

In addition to these persons, there was a group who remained attached to one industry, even one plant, throughout their employment and unemployment. Because of an age, skill, or experience advantage these were the ones who were recalled whenever activity in their plant was resumed or expanded, but continued inactivity in a number of the plants meant heavy records of unemployment for many of the group.

Still another group in the community consisted of those workers, mostly the young, who had succeeded in entering actively into the labor market, but who had not made permanent connections with any one industry. Their youth enabled them to shift from one industry to another, and, as a result, they constituted a constantly fluctuating reserve for many industries. The continued low level of activity was, however, reducing their chances of making any stable connection, and many of their number were chronically underemployed.

Finally, many workers, upon becoming unemployed, turned to self-employment, mostly in agriculture, small-scale mining, and trucking. The limited opportunities for gaining more than a bare subsistence by such attempts meant that this recourse to self-employment was for many workers a less than satisfactory adjustment.

In all, the situation that had developed in this depressed community—the widespread unemployment and underemployment, the inability of the younger workers to find places in the crowded labor market, and the increasing chronic unemployment of the older workers—presented a wide variety of social problems. Short of a tremendous expansion of local industrial activity, these problems can be met only by a relief and public work program calculated to care for the various types of unemployment that cannot be handled by existing security legislation.



Bootleg Mining of Anthracite ¹

During recent years, the illegal mining of coal from properties of the large producing companies in the anthracite region of Pennsylvania has become a problem of country-wide interest. Particular significance attaches to this depression-born activity because it has been attended by the break-down of ordinary legal processes in the region. Recognizing the plight of large numbers of unemployed miners, local judges and juries have frequently refused to convict for "bootlegging" of coal, or have imposed nominal sentences.

The Anthracite Coal Industry Commission, appointed by Governor Earle of Pennsylvania, made a comprehensive inquiry into the subject of bootleg mining.² The report of the commission is based primarily

¹ From the Monthly Labor Review for December 1937 (p. 1323).

² Pennsylvania. Anthracite Coal Industry Commission. *Bootlegging or Illegal Mining of Anthracite Coal in Pennsylvania: A Census and Survey of the Facts.* Harrisburg, 1937.

on the results of a survey of bootleg holes and bootleg breakers, made in May and June 1937.

Because of lack of funds, it was not possible to get a complete coverage of all bootleg operations; but from direct observation, information obtained locally, and the results of an airplane survey, the commission's staff was able to gage accurately the total number of bootleg holes and breakers in southern Pennsylvania fields. The commission estimates that its detailed survey covered 57 percent of all bootleg holes and 46 percent of all bootleg breakers. The results obtained from such large samples are believed to represent adequately and fairly the situation in the bootleg industry as a whole.

In 1936-37, according to the report's estimates, the bootleg-mining industry produced and sold anthracite at the rate of 2,400,000 tons a year. This was nearly 5 percent of the total output of all legal anthracite mines in Pennsylvania. In the year of peak activity, 1935, the bootleg output probably did not exceed 2,900,000 tons. In 1936-37, final consumers paid roughly \$16,000,000 a year for illegal coal.

During 1936-37 an average of 7,000 men were employed in bootleg-mining operations proper, 2,000 in picking over old culm and refuse banks, 1,300 in the bootleg breakers, and about 2,700 in trucking (many of whom, however, also performed other kinds of trucking). The total number engaged in bootlegging was hence about 13,000.

Of the 8,300 men working in bootleg holes and breakers, over 5,000, or 60 percent, had formerly worked around legal mines. Most of the remainder were young men and boys who came from miners' families; and 99.5 percent of the total had lived in the anthracite regions for at least 10 years. Most of them were also permanent residents of the southern Pennsylvania fields alone; few had come in from other anthracite fields. Including the families of the total of 13,000 men engaged in bootlegging, and after allowing for those having other sources of income, some 45,000 persons were wholly dependent on the bootleg industry in the middle of 1937.

Characteristics of the Industry

Anthracite bootlegging has been confined almost entirely to the southern fields—in Schuylkill and southeastern Northumberland Counties. This concentration is explained partly by the fact that in the southern fields the coal outcrops are more numerous and more easily worked from the surface than in the middle and northern fields; partly by the entire lack of any means of support other than mining in many of the communities in the southern fields; and partly by the fact that the effects of technological improvements, concentration of legal mining and breaking operations, and complete abandonment of high-cost legal mines have all been especially marked in the southern fields. Some 65 percent of all bootleg miners were working on the lands of one company alone, the Philadelphia & Reading Coal & Iron Co.

The typical bootleg-mining operation was found to be carried on by a group of 3 to 5 men (the average number was 3.6) working in partnership; very few holes employed men on wages. The average output

in the bootleg holes was 1.3 tons per man per day (less than half that of legal mines), and the average rate of profit per man was about \$19.70 per week. Both output and profits, however, varied widely. Some workers, for short periods of time, earned as high as \$79 per week.

At the time of the survey, it was estimated that 1,965 bootleg mines or holes were in active operation. But the average length of active life of any one hole was only about 7.5 months. The bootleg miner was therefore always having to move on. In some regions whole mountain sides were dotted with abandoned holes.

Some of the bootleg miners had built their own crude breakers and made a practice of preparing their coal for the market on the spot, but the greater number sent their run-of-mine coal to larger and more centrally located bootleg breakers, which were operated as separate business enterprises. It was estimated that there were 342 such bootleg breakers, or one for every 5.7 bootleg holes. The average bootleg breaker handled 119 tons of run-of-mine coal per week, employed approximately 4 men, and made a profit of \$77 a week for its owners. Most of the men working in the bootleg breakers, however, received wages and not profits. The wages of the breaker employees average \$14 a week.

To some extent the bootleg breakers sold their coal to final consumers from their own trucks. But the larger part of the bootleg output, especially that which is shipped to more distant points, was sold to independent truckers and retailers who came in from outside the anthracite fields, bought coal at the bootleg breakers, and sold it as far away as Baltimore, New York, and Connecticut. None of the bootleg coal moved by rail.

Future Prospects

Anthracite bootlegging has been engaged in, on a large scale, since the early thirties. No later study than the one of 1937, referred to above, has been made, but it is known that bootleg mining was still going in 1940. As to how long it will continue, opinions differ. At the time the commission's report was prepared, bootlegging was at low ebb. On the other hand, a cold winter with its consequent increase in the demand for coal, or an augmentation of the existing economic pressure on unemployed miners, might easily produce a very substantial expansion of this activity.

From a longer-run point of view, however, the gradual exhaustion of the coal deposits that are easily accessible from the surface, the increasing severity both in Pennsylvania and in other States of legal restrictions on trucking and sale of bootleg coal, and the improving prospects for a genuine revival of the whole legitimate anthracite industry, seem to forecast a gradual natural decline in bootlegging in future years. Moreover, the employment in other occupations of the four thousand and odd workers in bootleg holes who have had previous legal-mine experience would, at any time, bring bootlegging to an end overnight by removing most of the men who have the technical skill necessary to carry it on.

Employment Conditions Among Indians ¹

The Indian Reorganization Act of 1934, which gives preference to Indians for employment in the Indian Service staff, brought about an increase in permanent Indian employees from a few hundred in 1933 to 4,682 in 1940. On June 30, 1940, Indian superintendents numbered 8, while 251 Indians had professional positions, 935 had clerical jobs, and about 3,475 held other skilled jobs. These figures and the following data are taken from the annual report of the Secretary of the Interior for the fiscal year ended June 30, 1940.

The Indians in regular and temporary positions constituted more than 50 percent of the Indian Service personnel.² Furthermore, thousands of Indians were working intermittently, building roads, dams, wells, hospitals, schools, community buildings, and homes on their reservations. Through the Indian division of the Civilian Conservation Corps and the extension of the PWA and the WPA funds and other emergency relief, various requisite physical improvements were made on 200 reservations while at the same time thousands of Indians have been provided with jobs and training opportunities in skills which had never before been available to them.

When the report under review was being prepared there were more mechanics, painters, carpenters, machinists, radio operators, surveyors, draftsmen, and engineers among the Indian population than in any preceding year.

Only 10 years ago difficult trails and bypaths on the Indian reservations restricted travel and consequently retarded social and economic progress. Day schools were almost impossible; doctors and nurses were able to reach the sick in their homes only after protracted delays and hindrances and sometimes not at all; large tracts of land remained inaccessible; and home and farm services were only partially effective.

During the past year 263 miles of new roads were completed, 184 miles of road were regraded to adequate standards, 278 miles of road were gravel surfaced, and 118 miles resurfaced; 87 major bridges were built. There are now 5,232 miles of serviceable graded roads on 200 reservations in 24 States. There still remain, however, numbers of Indians in inaccessible locations reached only occasionally by the Federal Government's services. Improvements must be made on 6,150 miles of old and nearly impassable roads and trails before urgent requirements are met.

Many of the reservation roads constructed during the past 7 years are connecting links between important Federal and State highways. They form part of the major network of roads available for military transport and provide access to material defensive resources.

Indians are coming to be recognized as competent road builders and a substantial number have recently secured skilled jobs with private contractors and other road-building agencies. The Indian Service road and bridge construction alone has afforded work for as many as

¹ From the Monthly Labor Review for April 1941.

² The Indian population under the jurisdiction of the United States Office of Indian Affairs numbered 361,816 (partly estimated) at the beginning of 1940, according to a supplement to the annual report of the Commissioner of that Office, dated January 1, 1940.

14,000 Indians in the course of a single season. As a consequence, on June 30, 1940, in this field alone, well-trained Indian mechanics numbered over 1,300. Numerous road projects were manned entirely by Indian laborers.

In constructing buildings on Indian reservations from 1933 to 1939, about 80 percent of the funds expended for labor was paid to Indians. During these years the earnings of Indians for constructing schools, hospitals, and agency quarters carried on by the Indian Service, are estimated at \$7,926,000.

During the past fiscal year, 21 schools, 42 cottages, 12 dormitories, 7 barns, and 4 office buildings were among the 107 Federal structures constructed on reservations. This brought the number of modernized Federal buildings, sponsored by the Construction Division during the past 7 years, to a total of approximately 500.

On the basis of estimates submitted by various superintendents, about 570 more administrative buildings will be needed during the next 6 years, including 62 schools, 35 employees' buildings, 13 hospitals, 224 cottages, and 129 dormitories.

Rehabilitation Measures

The Rehabilitation Division's projects provided under the Emergency Relief Appropriation Acts of 1935, 1937, 1938, and 1939 have been of first importance to the Indians. Although the funds provided not over an average of 6 months' employment for 2,000 Indians annually, the use of the funds in connection with the coordinated activities of other divisions of the Indian Service has been far-reaching.

In aiding the Indians to support themselves, in certain regions the Federal Government faces the problem of complete resettlement of Indian families. In illustration, numerous Blackfeet Indians moved to Browning, Mont., as there were no job opportunities for them on their outlying reservation lands. Under the rehabilitation program 50 families were settled on irrigated tracts on reservations where they constructed houses and barns, engaged in gardening, and acquired livestock. Additional land for grazing was allotted to them. Some of the families, who had been established for 2 years at the time the report was prepared, had been unusually successful. They had kept their homes in good condition, added to their herds, and fulfilled their credit obligations.

During the fiscal year 1939-40, 449 new houses for Indians were built, making a total of 2,482 in the period the rehabilitation program had been in operation. Old houses repaired during the fiscal year covered numbered 872, making a total of 4,540 such houses. Twenty-four community self-help buildings were being constructed and 21 others were being repaired, bringing the total number of Indian self-help buildings aided through emergency funds to 241. During the same year work was undertaken on 65 canning and sewing centers and many other community projects were in operation.

Michigan Population and Unemployment Census, 1935 ¹

A census of population and unemployment in Michigan as of January 14, 1935,² was carried on in the early part of that year as a special work project of the Emergency Relief Administration of that State. The census showed that approximately one-fifth (18.8 percent) of the employable population³ of the State of 15 years of age and over was unemployed at the time of the census and an additional 4.2 percent were unpaid family workers, including boys assisting their parents with farm work, women and children helping in an office or store operated by the family, wives supplementing the family incomes by having boarders or lodgers, and other workers who were adding to the family income without themselves being in receipt of wages. Among other facts brought out in table 1 is the difference between the employment status of employable males and females 15 years of age and over, the percentage of the former unemployed being 19.9 percent and of the latter 14.4 percent. However, only seven-tenths of 1 percent of the employable females were on work-relief jobs as compared with 2.7 percent of the employable males.

TABLE 1.—*Employment status of persons 15 years of age and over in Michigan, by sex, Jan. 14, 1935*

Employment status	Total	Males	Females	Percent distribution by employment status			Sex distribution (percent of total)	
				Total	Males	Females	Males	Females
Total population of State 15 years of age and over	3,392,525	1,742,513	1,650,012	100.0	100.0	100.0	51.4	48.6
Not seeking work	1,571,991	285,923	1,286,068	46.3	16.4	77.9	18.2	81.8
Employable (working or seeking work)	1,820,534	1,456,590	363,944	53.7	83.6	22.1	80.0	20.0
Total employable population	1,820,534	1,456,590	363,944	100.0	100.0	100.0	80.0	20.0
Gainfully employed	1,398,678	1,121,195	277,483	76.8	77.0	76.2	80.2	19.8
Unpaid family workers	77,233	43,759	33,474	4.2	3.0	9.2	56.7	43.3
Not working due to illness, injury, industrial dispute	1,731	1,339	392	.1	.1	.1	77.3	22.6
Unemployed, total ¹	342,892	290,297	52,595	18.8	19.9	14.4	84.7	15.3
Total unemployed with previous work experience	272,080	233,331	38,749	14.9	16.0	10.6	85.8	14.2
On work relief or temporary made-work projects	42,335	39,789	2,546	2.3	2.7	.7	94.0	6.0
Total unemployed with no previous work experience	28,477	17,177	11,300	1.6	1.2	3.1	60.3	39.7

¹ Persons on work relief or made-work projects are included in the unemployed.

² From the Monthly Labor Review for November 1936 (p. 1157) and May 1937 (p. 1158).

³ Michigan. State Emergency Welfare Relief Commission. Michigan Census of Population and Unemployment. Employment and Unemployment Statistics, First Series: Age, Sex, and Employment Status of Gainful Workers in Five Types of Communities. Lansing, 1936.

⁴ The designation "employable persons" (or "employable population") in this report is applied to those persons whom the United States Bureau of the Census classifies as "gainful workers." Only persons actually working or looking for work were regarded as "employable."

Unemployment According to Population of Community

The percentage of employable persons unemployed was heaviest in small towns and villages having under 3,000 population. In these small communities 25.6 percent of the employables were reported as unemployed as compared with 17.8 percent in the first-class cities (over 40,000 population). It will be noted, however, from the figures in table 2 that almost half of the total unemployed in the State were reported in cities of the first class.

TABLE 2.—*Employment status of persons working or seeking work in Michigan, Jan. 14, 1935, by type of community*

Type of community	Total number of persons working or seeking work	Gainfully employed	Unpaid family workers	Unemployed on made work	Not working, due to illness, injury, etc.
First-class cities (over 40,000 population).....	961, 675	770, 239	19, 876	170, 701	859
Second-class cities (3,000 to 40,000 population).....	273, 306	210, 849	3, 830	58, 369	258
Towns and villages (under 3,000 population).....	106, 012	76, 243	2, 525	27, 107	137
Metropolitan townships.....	93, 440	70, 536	3, 218	19, 602	84
Rural townships.....	386, 101	270, 811	47, 784	67, 113	393
State total.....	1, 820, 534	1, 398, 678	77, 233	342, 892	1, 731
Percentage distribution					
First-class cities (over 40,000 population).....	100. 0	80. 0	2. 1	17. 8	0. 1
Second-class cities (3,000 to 40,000 population).....	100. 0	77. 1	1. 4	21. 4	. 1
Towns and villages (under 3,000 population).....	100. 0	71. 9	2. 4	25. 6	. 1
Metropolitan townships.....	100. 0	75. 5	3. 4	21. 0	. 1
Rural townships.....	100. 0	70. 1	12. 4	17. 4	. 1
State total.....	100. 0	76. 8	4. 2	18. 8	. 1
Percent of total in each type of community					
First-class cities (over 40,000 population).....	52. 8	55. 1	25. 7	49. 8	-----
Second-class cities (3,000 to 40,000 population).....	15. 0	15. 1	5. 0	17. 0	-----
Towns and villages (under 3,000 population).....	5. 8	5. 5	3. 3	7. 9	-----
Metropolitan townships.....	5. 1	5. 0	4. 2	5. 7	-----
Rural townships.....	21. 2	19. 4	61. 9	19. 6	-----
State total.....	100. 0	100. 0	100. 0	100. 0	-----

Intensity of Unemployment by Sex and Age Groups

While 18.8 percent of all employables 15 years of age and over in the State were wholly unemployed, 34.3 percent of the 15 to 19 years age group and 27.3 percent of the 60 to 64 years age group were unemployed. The percentages for males alone were even higher, being 35.3 percent in the 15 to 19 years age group and 29.1 percent in the 60 to 64 years age group, while in the 30 to 34 years age group the percentages were as low as 13.0 for both sexes and 14.0 for males alone.

The figures for other groups are reported in table 3, which indicates that unemployment was not so severe among woman workers as among employable men. In the 15 to 19 years age group, however, the difference was slight.

TABLE 3.—Percent of unemployment in Michigan, January 1935, by sex and age groups

Age group	Unemployed as percent of all gainful workers		
	Total	Males	Females
All ages.....	18.8	19.9	14.5
15 to 19 years.....	34.3	35.3	32.5
20 to 24 years.....	24.0	27.3	17.3
25 to 29 years.....	15.1	16.6	10.3
30 to 34 years.....	13.0	14.0	8.7
35 to 39 years.....	13.2	14.0	9.2
40 to 44 years.....	14.2	15.1	9.0
45 to 49 years.....	16.8	17.9	9.5
50 to 54 years.....	19.7	21.3	10.1
55 to 59 years.....	23.0	24.5	12.5
60 to 64 years.....	27.3	29.1	16.0
65 years and over.....	24.5	25.7	17.1

Unemployment in Selected Industries

The relative incidence of unemployment among workers attached to various industries may be shown by the ratio of unemployed workers to the total number of workers who are engaged or usually engaged in the individual industries. The proportion of unemployed workers in the manufacturing and mechanical industries was 15.3 percent, a little above the average for all industries; this was the result of the widespread unemployment among building and construction workers. In agriculture, trade, public service, and domestic and personal service, the ratio of unemployment was below the average for the State, and among professional and semiprofessional workers only 6 percent were unemployed. Over a third (34.6 percent) of the workers classified under "extraction of minerals," a third (33.1 percent) of the forestry and fishing group, and almost a fourth (23.5 percent) of those who were reported in the transportation and communication group were unemployed, as disclosed in table 4.

TABLE 4.—Percent unemployed in selected industries in Michigan, Jan. 14, 1935

Industry	Percent unem- ployed			Industry	Percent unem- ployed		
	Total	Males	Fe- males		Total	Males	Fe- males
Total—Industry ascertained.....	14.4	15.4	9.7	Transportation and comu- nication.....	23.5	24.9	7.3
Agriculture.....	12.6	12.8	6.5	Construction and main- tenance of streets.....	49.0	49.0	(?)
Forestry and fishing.....	33.1	33.3	19.8	Steam and street railroads.....	14.1	14.2	10.4
Extraction of minerals.....	34.6	34.9	15.8	Truck, transfer, and cab companies.....	16.8	17.1	6.1
Manufacturing and mechani- cal industries.....	15.3	15.9	10.5	Other.....	15.1	17.3	6.6
Building and construction.....	45.4	45.6	27.6	Trade.....	11.1	11.2	10.6
Chemical and allied indus- tries.....	8.6	9.1	5.2	Wholesale and retail.....	11.7	11.7	11.7
Food and allied industries.....	16.3	15.8	18.8	Banking, brokerage, insur- ance, and real estate.....	8.0	8.2	7.6
Iron, steel, machinery, and vehicle industries.....	13.1	13.3	9.7	Other.....	9.7	11.0	7.2
Automobile factories.....	13.2	13.4	9.9	Public service (not elsewhere classified).....	11.7	12.2	8.9
Other.....	12.7	13.0	9.0	Professional and semiprof- essional service.....	6.0	7.6	4.3
Lumber and furniture indus- tries.....	20.1	21.0	9.8	Domestic and personal service.....	12.7	13.9	12.1
Paper, printing, and allied industries.....	9.6	9.5	10.5	Hotels, restaurants, etc. ²	12.9	15.0	10.7
Other manufacturing.....	11.9	12.7	9.7	Domestic and personal service (n. e. c.).....	12.6	12.3	12.7

¹ Base figure less than 500 and more than 200.

² Base figure less than 200.

³ Includes boarding houses, laundries, cleaning, dyeing, and pressing shops.

Unemployment in Nebraska, 1932-39 ¹

The unemployed group in Lincoln, Nebr., constituted 14.3 percent of those enumerated in 1939 as compared to 25.2 percent of those covered in a similar canvass in 1933. However, among the unemployed many were unable or unwilling to work. The jobless who were able and willing to work in 1939 constituted only 6.0 percent of all the persons enumerated as compared with nearly 20 percent of those covered in the 1933 survey.

Full-time employment in 1939 was 78.5 percent; in 1933, only slightly over 64 percent. The proportions of part-time employment for these years were, respectively, 7.2 percent (1939) and 10.8 percent (1933).

It was not possible to conduct an employment census of the more than 32,300 gainfully occupied persons in Lincoln, so 10 city acres were selected, the population of which was considered representative; the same sections have been used in a series of 4 surveys, the first being made in 1932. Employment data were secured for every person over 16 years old, except students and women not usually gainfully employed.

In all of the 4 years in which surveys were made, the percent employed full time was greater for household heads than for all persons surveyed. Among the household heads in 1939 the unemployed able and willing to work made up 4.8 percent, as against 6 percent for the whole group of workers studied.

Some of the findings of these surveys, made under the auspices of the University of Nebraska,² are given in the table following.

Employment status of all persons enumerated in Lincoln, Nebr., by sex, 1932-39

Employment status	Number				Percent			
	1939	1937	1933	1932	1939	1937	1933	1932
Total, both sexes.....	4, 173	4, 009	3, 684	4, 026	100. 0	100. 0	100. 0	100. 0
Employed—								
Full time.....	3, 278	3, 043	2, 358	2, 466	78. 5	75. 9	64. 1	61. 3
Part time.....	300	401	398	491	7. 2	10. 0	10. 8	12. 2
$\frac{2}{3}$ but less than full.....	56	60	64	91	1. 3	1. 5	1. 7	2. 3
$\frac{1}{2}$ but less than $\frac{2}{3}$	127	159	171	229	3. 0	4. 0	4. 6	5. 7
$\frac{1}{3}$ but less than $\frac{1}{2}$	43	48	60	57	1. 0	1. 2	1. 6	1. 4
Less than $\frac{1}{3}$	40	69	67	76	1. 0	1. 7	1. 8	1. 9
Not reported.....	34	65	36	38	. 8	1. 6	. 9	. 9
Idle.....	595	565	928	1, 069	14. 3	14. 1	25. 2	26. 5
Able and willing to work.....	251	253	725	721	6. 0	6. 3	19. 8	17. 9
Unable or unwilling to work.....	324	304	193	348	7. 8	7. 6	5. 2	8. 6
No report.....	20	8	10	-----	. 5	. 2	. 2	-----
Total males.....	3, 080	2, 968	2, 718	3, 021	100. 0	100. 0	100. 0	100. 0
Employed—								
Full time.....	2, 429	2, 256	1, 699	1, 800	78. 9	76. 0	62. 5	59. 6
Part time.....	188	265	291	343	6. 1	8. 9	10. 7	11. 4
$\frac{2}{3}$ but less than full.....	43	40	52	68	1. 4	1. 3	1. 9	2. 3
$\frac{1}{2}$ but less than $\frac{2}{3}$	77	107	130	171	2. 5	3. 6	4. 8	5. 7
$\frac{1}{3}$ but less than $\frac{1}{2}$	25	31	39	35	. 8	1. 0	1. 4	1. 2
Less than $\frac{1}{3}$	23	44	43	44	. 7	1. 5	1. 8	1. 5
Not reported.....	20	43	22	25	. 6	1. 4	. 8	. 8
Idle.....	463	447	728	878	15. 0	15. 1	26. 8	29. 1
Able and willing to work.....	179	179	550	563	5. 8	6. 0	20. 2	18. 6
Unable or unwilling to work.....	271	264	170	315	8. 8	8. 9	6. 3	10. 4
No report.....	13	4	8	-----	. 4	. 2	. 3	-----

¹ From Monthly Labor Review for April 1940 (p. 859).

² University of Nebraska. Eight Years of Unemployment in Lincoln, Nebr., 1932-39, by Cleon Oliphant Swayzee. Lincoln, Nebr., October 1939, pp. 1-6. (Nebraska Studies in Business, No. 45.)

Employment status of all persons enumerated in Lincoln, Nebr., by sex, 1932-39—
Continued

Employment status	Number				Percent			
	1939	1937	1933	1932	1939	1937	1933	1932
Total females.....	1,093	1,041	966	1,005	100.0	100.0	100.0	100.0
Employed—								
Full time.....	849	787	659	666	77.7	75.6	68.2	66.0
Part time.....	112	136	107	148	10.2	13.1	11.1	15.0
$\frac{3}{4}$ but less than full.....	13	20	12	23	1.2	1.9	1.2	2.4
$\frac{1}{2}$ but less than $\frac{3}{4}$	50	52	41	58	4.6	5.0	4.2	5.8
$\frac{1}{3}$ but less than $\frac{1}{2}$	18	17	21	22	1.6	1.6	2.2	2.3
Less than $\frac{1}{3}$	17	25	19	32	1.5	2.4	1.9	3.3
Not reported.....	14	22	14	13	1.3	2.1	1.4	1.3
Idle.....	132	118	200	191	12.1	11.3	20.7	19.0
Able and willing to work.....	72	74	175	158	6.6	7.1	18.1	15.7
Unable or unwilling to work.....	53	40	23	33	4.8	3.8	2.4	3.3
Not reported.....	7	4	2	.....	.6	.4	.....	.....



Unemployment in Cincinnati, 1929 to 1940¹

Statistics covering employment and unemployment in Cincinnati have been obtained since 1929 by the board of education in connection with the regular school censuses, with the exception of the year 1935 when a special census was taken. However, in that year there was enough similarity, in the questions asked, to make some of the findings comparable with other years.

The report² for May 1940 was based on 171,771 individuals covered by the interviews—a number which is not much less than the entire “employable” population of the city. According to the report, approximately 5,600 persons who were unemployed in May 1939 had secured jobs by May 1940, while over the 2-year period from May 1938 to May 1940, nearly 14,000 of those out of work on the earlier date had been placed in employment. In May 1940, 13.31 percent of the employable persons in Cincinnati were unemployed, as compared with 16.08 percent in May 1939 and 30.43 percent in May 1933, which latter year represented the peak of unemployment during the 12-year period. The number of part-time workers represented 8.05 percent of the employables in May 1940, as compared with 7.04 percent in 1939 and 17.90 percent in 1933.

The percentages of full-time, part-time, and totally unemployed workers are shown for each year from May 1929 to May 1940 in table 1.

¹ From the Monthly Labor Review for December 1940 (p. 1367).

² Cincinnati, City of. Twelfth Annual Employment Census, May 1940. (Mimeographed.)

TABLE 1.—Percentage distribution of employable workers in Cincinnati, by employment status, 1929 to 1940

May—	Percent employed—		Percent unem- ployed	May—	Percent employed—		Percent unem- ployed
	Full time	Part time			Full time	Part time	
1929 ¹	88.56	5.27	5.94	1935 ²	67.80	9.70	22.50
1930.....	81.89	9.83	8.28	1936.....	72.67	6.53	20.80
1931.....	62.83	18.38	18.79	1937.....	84.44	5.20	10.36
1932.....	52.55	19.38	28.07	1938.....	67.27	12.58	20.15
1933.....	51.67	17.90	30.43	1939.....	76.88	7.04	16.08
1934.....	62.58	12.22	25.20	1940.....	78.64	8.05	13.31

¹ 0.27 percent of employables not listed by employment status in the 1929 census.

² The 1935 census was more extensive than that of any other year and was undertaken through the joint efforts of the Cincinnati Board of Education, the Regional Department of Economic Security, and the Works Progress Administration.

Unemployment, by Race

Since 1933 the information collected has been tabulated separately for white and colored employables. In securing the data, enumerators were instructed not to list family members who were unemployed because of old age, illness, retirement, or mental or physical handicaps. It was regarded as probable, however, that some of the persons listed were actually unemployable, since the question of employability was left to the judgment of the person interviewed rather than to that of the enumerator. Of the 171,771 individuals classified as employable, 153,270 were white and 18,501 colored. Seventy-one workers of other races were not included in the figures. Persons listed as unemployed included all persons who were on WPA, FERA, CWA, or any other work-relief programs which were in operation at the time the censuses were taken.

The percentages of employment and unemployment by race are shown in table 2.

TABLE 2.—Employment and unemployment in Cincinnati, by race, 1933 to 1940

May	White			Colored		
	Percent employed—		Percent un- employed	Percent employed—		Percent un- employed
	Full time	Part time		Full time	Part time	
1933.....	53.97	17.99	28.04	32.83	12.85	54.32
1934.....	65.89	12.92	21.19	32.75	13.85	53.40
1935.....	69.80	12.50	17.80	37.90	11.10	51.00
1936.....	75.91	6.57	17.52	44.49	6.06	49.45
1937.....	87.09	4.91	8.00	55.69	8.34	35.97
1938.....	70.87	12.78	16.35	36.42	10.89	52.69
1939.....	80.16	7.05	12.79	47.81	6.94	45.25
1940.....	81.34	7.97	10.69	56.24	8.71	35.05

The figures show a much higher ratio of unemployment among colored than among white employables. In May 1933, 54.32 percent of the Negro workers were totally unemployed, as compared with 28.04 percent of the white, while in May 1940 only 10.69 percent of the white workers, but 35.05 percent of the colored, were without employment.

Estimated Trend of Employment

For purposes of comparison, it was assumed in estimating the number of unemployed persons at the time each census was taken that the employable population remained the same from year to year. This assumption was criticized on the ground that it did not take into account increases in the population of Cincinnati after the 1930 Federal census. Preliminary figures for the 1940 census, however, indicate that the change over the 10-year period has been less than one-half of 1 percent. Because of this slight change, therefore, the number of persons employed full time and part time, and the number of unemployed persons, have been computed by applying the percentages of employment and unemployment shown by the annual censuses against the 1930 Federal census figures, according to which 203,030 persons had gainful occupations.

On the same base, the figures for May 1940 for Hamilton County, in which Cincinnati is situated, would be: Employed full time, 202,359; employed part time, 20,714; unemployed, 34,250.

TABLE 3.—*Employment and unemployment in Cincinnati, by years, 1931 to 1940*

May—	Number em- ployed—		Number unem- ployed	May—	Number em- ployed—		Number unem- ployed
	Full time	Part time			Full time	Part time	
1931.....	127,564	37,317	38,149	1936.....	147,542	13,258	42,230
1932.....	106,692	39,347	56,991	1937.....	171,438	10,558	21,034
1933.....	104,906	36,342	61,782	1938.....	136,578	25,541	40,911
1934.....	127,056	24,810	51,164	1939.....	156,094	14,300	32,636
1935.....	137,654	19,694	45,682	1940.....	159,663	16,344	27,023



Unemployment in Philadelphia, 1938 ¹

In the summer of 1938 approximately one-third (32.5 percent) of the employable persons in Philadelphia were unemployed and 6.2 percent were working part time, according to a report prepared by the Pennsylvania WPA.² The corresponding percentages for 1937 were 24.4 and 5.1. However, in 1933, as table 1 indicates, 46.0 percent were unemployed and 19.9 percent were on part time.

¹ From Monthly Labor Review for October 1939 (p. 838).

² University of Pennsylvania, Industrial Research Department, co-sponsor, in cooperation with Pennsylvania Department of Public Assistance. Special Report No. 7: Employment in Philadelphia, July-August 1938, by Gladys L. Palmer. Philadelphia, 1939. (Pennsylvania Works Progress Administration Projects, 17,444 and 20,576.)

TABLE 1.—*Employment status of employable persons in Philadelphia unemployment census sample, 1929-38*

Year	Number of households enumerated	Employable persons							
		Total		Employed—				Unemployed	
				Full time		Part time			
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
1929.....	31,551	58,866	100.0	52,756	89.6	(1)	(1)	6,110	10.4
1930.....	36,665	69,884	100.0	55,788	79.8	3,648	5.2	10,448	15.0
1931.....	36,410	67,150	100.0	40,766	60.7	9,243	13.8	17,141	25.5
1932.....	35,471	66,854	100.0	24,782	37.1	13,887	20.8	28,185	42.1
1933.....	35,820	66,454	100.0	22,630	34.1	13,256	19.9	30,568	46.0
1934.....	40,931	78,121	100.0	38,420	49.2	11,437	14.6	28,264	36.2
1935.....	43,997	78,524	100.0	41,489	52.8	11,125	14.2	25,910	33.0
1936.....	44,817	79,822	100.0	48,669	61.0	7,086	8.9	24,067	30.1
1937.....	45,928	79,610	100.0	56,150	70.5	4,007	5.1	19,453	24.4
1938.....	45,715	75,402	100.0	46,231	61.3	4,641	6.2	24,530	32.5

¹ Figures for part-time employment not available.

The above tabulation is based on the findings of surveys of between 8 and 9 percent of the estimated population of Philadelphia; each year the same selected blocks in 10 school districts have been covered, but the enumerative facilities have varied from time to time. Employable persons were defined as "those 16 years of age and over, working or seeking work." Prior to 1935 full-time employment was reported in terms of the practice of the industry. In subsequent studies, work of less than 30 hours per week was defined as part-time employment. For the purpose of these annual censuses persons on work-relief projects were regarded as unemployed. Although the field work for most of the preceding sample surveys were conducted in May, estimates from various 1938 employment indexes show that the general employment and unemployment rates were approximately the same for the period of the survey June 15-August 31 as they had been for May.

Table 2 shows the employment status of employable persons in the summer of 1938, by sex. Of the 54,005 males 16 years of age and over, 31.2 percent were unemployed, and of 21,397 females, 36.0 percent were reported in the jobless group.

TABLE 2.—*Employment status of employable persons in Philadelphia sample, by sex, summer of 1938*

Employment status	Total		Males		Females	
	Number	Percent	Number	Percent	Number	Percent
Total number of employable persons.....	75,402	100.0	54,005	100.0	21,397	100.0
Employed.....	50,872	67.5	37,171	68.8	13,701	64.0
40 hours or more per week.....	41,366	54.9	31,278	57.9	10,088	47.1
30-39 hours per week.....	4,865	6.4	2,889	5.3	1,976	9.2
Less than 30 hours per week ¹	4,641	6.2	3,004	5.6	1,637	7.7
Unemployed.....	24,530	32.5	16,834	31.2	7,696	36.0
Previously employed.....	19,193	25.4	14,053	26.0	5,140	24.0
Not previously employed.....	5,337	7.1	2,781	5.2	2,556	12.0
Employed on emergency works program projects.....	2,524	3.3	1,975	3.7	549	2.6
Previously employed.....	2,108	2.7	1,703	3.2	405	1.9
Not previously employed.....	416	.6	272	.5	144	.7
Not employed on emergency works program projects.....	22,006	29.2	14,859	27.5	7,147	33.4
Previously employed.....	17,085	22.7	12,350	22.8	4,735	22.1
Not previously employed.....	4,921	6.5	2,509	4.7	2,412	11.3

¹ Considered part-time employment.

As indicated in table 3, the rate of unemployment among Negroes was considerably higher than among white workers. Over 50 percent of the Negroes were unemployed. Nearly 30 percent of the native-born white males and 33.5 percent of the native-born white females were unemployed, while the proportions of unemployed in the foreign-born white group were 24.1 percent of the males and 22.6 percent of the females.

TABLE 3.—Race and nationality of employable persons in Philadelphia sample, by sex and employment status, summer of 1938

Sex, race, and nativity	Total ¹		Employed		Unemployed ²	
	Number	Percent	Number	Percent	Number	Percent
Males	54,004	100.0	37,171	68.8	16,833	31.2
Native-born white.....	35,601	100.0	25,074	70.4	10,527	29.6
Foreign-born white.....	11,451	100.0	8,691	75.9	2,760	24.1
Negro and all other.....	6,952	100.0	3,406	49.0	3,546	51.0
Females	21,397	100.0	13,701	64.0	7,696	36.0
Native-born white.....	15,476	100.0	10,288	66.5	5,188	33.5
Foreign-born white.....	1,859	100.0	1,439	77.4	420	22.6
Negro and all other.....	4,062	100.0	1,974	48.6	2,088	51.4

¹ Excludes 1 man who did not report nativity.

² Includes persons employed on Emergency Works Program projects.



Employment and Unemployment in Rhode Island, 1936 ¹

Slightly over 16 percent of the 279,988 gainful workers and 13,671 job seekers without occupational experience in Rhode Island in January 1936 were unemployed, and an additional 4.7 percent were on relief projects, according to a census of the population of the State. The percentage employed part time was 5.1, and the sick, physically handicapped, those not reported, etc., constituted 2.3 percent, as shown in table 1. The census was conducted by use of relief funds, and the results were published by the Department of Labor of Rhode Island under the title, "The Story of the 680,712."

TABLE 1.—Employment status of gainful workers and job seekers without occupational experience, January 1936

Employment status	Total	Males	Females
	Percent	Percent	Percent
Employed full time.....	71.9	71.7	72.5
Employed part time.....	5.1	4.4	6.8
Employed on relief projects.....	4.7	6.1	1.5
Unemployed ¹	16.1	15.3	17.3
Sick, physically incapacitated, not reported, etc.....	2.3	2.5	1.9

¹ Includes those without occupational experience but seeking work.

¹ From Monthly Labor Review for November 1937 (p. 1116).

An analysis of employment status by age groups (table 2) discloses that the heaviest unemployment in Rhode Island in January 1936 was in the lower and upper age groups. Since the group under 16 years of age is relatively unimportant numerically, the most serious problem was presented by the 16 to 25 age group, in which 26 percent are reported unemployed. Although the 66 to 75 and the 76 and over age groups had only slightly less full-time employment than the 16 to 25 age group, this situation was not wholly the result of unemployment but was due in a substantial degree to the higher proportion of sick, physically disabled, and unreported, as well as of those on relief projects. In almost every way the age groups 26 to 35 and 36 to 45 were found to be in a more favorable position, their full-time employment being highest and their unemployment lowest. The age groups 46 to 55 and 56 to 65 are recorded, however, as having slightly heavier percentages on relief.

TABLE 2.—*Employment status of gainful workers and job seekers without occupational experience, January 1936, by age groups*

Employment status	Percentage in specified age group							
	Under 16	16-25	26-35	36-45	46-55	56-65	66-75	76 and over
Both sexes:								
Employed full time.....	40.1	63.7	78.6	77.7	73.8	69.1	63.1	59.3
Employed part time.....	5.1	6.1	4.9	4.8	4.8	4.5	4.3	4.0
Employed on relief projects.....	1.5	2.6	4.5	5.9	6.2	6.2	5.9	4.4
Unemployed ¹	47.8	26.0	10.2	9.4	12.7	16.6	19.6	16.8
Sick, physically incapacitated, not reported, etc.....	5.5	1.6	1.8	2.1	2.5	3.6	7.1	15.5
Males:								
Employed full time.....	42.3	61.2	78.2	78.0	73.7	68.0	62.1	57.9
Employed part time.....	5.6	5.3	4.1	4.1	4.3	4.2	4.0	3.9
Employed on relief projects.....	2.3	4.0	6.0	7.1	7.0	6.9	6.3	4.7
Unemployed ¹	43.4	27.7	9.8	8.6	12.4	17.1	20.2	17.5
Sick, physically incapacitated, not reported, etc.....	6.3	1.7	1.9	2.1	2.6	3.8	7.4	16.0
Females:								
Employed full time.....	37.5	66.9	79.4	76.7	74.2	74.5	69.6	68.0
Employed part time.....	4.6	7.1	6.6	7.1	6.5	5.8	6.0	5.1
Employed on relief projects.....	.6	.8	1.2	2.0	2.9	2.8	3.6	2.0
Unemployed ¹	52.8	23.8	11.1	12.1	14.0	13.9	15.5	12.2
Sick, physically incapacitated, not reported, etc.....	4.5	1.4	1.7	2.1	2.4	3.0	5.3	12.7

¹ Includes those without occupational experience but seeking work.

The returns also show that those who reported "no work" at the time of the census had been without jobs for varying periods of time. Table 3 shows in terms of percentages the severity of unemployment by selected periods of unemployment for each sex. Approximately one-half of all males reporting no work had been without work for a year or longer; slightly less than one-fourth had been unemployed for more than 1½ years.

Measured by the time idle, unemployment seemed to have been less severe among women than men, although there was little difference between the sexes in the proportion unemployed for 6 months or less.

TABLE 3.—Severity of unemployment, by selected periods and by sex

Period of unemployment	Unemployed		Period of unemployment	Unemployed	
	Males	Female		Males	Females
	Percent	Percent		Percent	Percent
2½ years or longer.....	12.3	8.0	9 months or longer.....	61.2	59.1
1½ years or longer.....	22.8	16.3	6 months or longer.....	76.8	75.4
1 year or longer.....	51.2	46.7	3 months or longer.....	89.8	87.8

¹ Disregards those reported as "unknown."

While the self-employed and employers constitute only a small proportion of the gainful workers, unemployment was not so heavy among them as among the wage earners. Of the male gainful workers, 8.5 percent were self-employed and 2.9 percent were employers. The corresponding percentages for female gainful workers were 2.9 and 0.5. At the time of the January 1936 enumeration 80.5 percent of the self-employed males and 90.1 percent of the male employers were reported employed full time as compared with 83.4 percent of the female self-employed and 90.3 percent of the female employers.

In table 4, gainful workers are classified on an industrial, business, and service basis. The figures presented disclose that only 46.2 percent of the male workers reporting building construction as their occupational field had full-time employment January 1936, and that the percentage of full-time employment among males in silk mills was as low as 62.3. On the other hand, the statistics indicate 89.4 percent full-time employment for male professional and semiprofessional workers.

TABLE 4.—Gainful workers in Rhode Island, January 1936, by industry, employment status, and sex

Industry ¹	Employment status									
	Total		Full time		Part time		Unem- ployed ²		Not work- ing ³	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
Total.....	197,957	82,031	147,682	63,465	9,120	5,942	35,897	10,966	5,258	1,658
Manufacturing and mechanical in- dustries:										
Building construction.....	12,646	242	5,842	171	953	10	5,437	54	414	7
Chemical and allied products.....	1,699	280	1,481	243	39	11	141	26	38	
Clay, glass, and stone.....	564	41	314	33	34	2	203	6	13	
Clothing.....	222	646	167	466	14	60	32	105	9	15
Electrical, machinery and sup- ply.....	773	154	660	127	25	3	77	22	11	2
Furniture, woodworking, fin- ished lumber.....	939	80	649	59	63	6	200	12	27	3
Independent hand trades.....	915	218	715	170	26	19	144	26	30	3
Iron and steel.....	2,805	189	2,118	165	156	8	457	15	74	1
Jewelry.....	7,929	5,402	5,189	3,410	641	607	1,962	1,339	137	46
Machines and machine tools.....	8,062	568	6,495	512	347	17	1,051	34	199	5
Other metal.....	4,869	1,005	3,927	826	257	66	548	95	137	18
Paper and allied products.....	976	480	786	336	50	52	126	84	14	8
Printing, publishing, and en- graving.....	2,475	545	2,111	461	110	36	220	38	34	10
Rubber.....	2,531	2,031	1,773	1,541	77	180	586	269	95	41
Shoe and leather.....	540	255	342	163	19	19	143	63	36	10
Miscellaneous manufacturing.....	3,001	1,062	2,321	841	151	98	453	107	76	16

See footnotes at end of table.

TABLE 4.—Gainful workers in Rhode Island, January 1936, by industry, employment status, and sex—Continued

Industry ¹	Employment status									
	Total		Full time		Part time		Unem- ployed ²		Not work- ing ³	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
Textile industries:										
Cotton.....	10,898	6,391	7,441	4,568	378	322	2,830	1,352	249	149
Woolen and worsted.....	14,836	11,312	11,643	8,850	859	952	1,846	1,204	488	306
Silk.....	4,470	4,000	2,787	2,473	530	640	1,068	812	85	75
Textile dyeing, printing, finish- ing, bleaching.....	7,588	1,189	6,176	972	399	80	839	111	174	26
Thread and braid.....	2,375	3,472	1,797	2,305	248	618	293	494	37	55
Other textile.....	2,787	1,738	2,269	1,416	143	135	328	153	47	34
Trade:										
Wholesale and retail.....	26,058	8,814	21,310	6,871	909	533	3,311	1,288	528	122
Auto agencies.....	1,438	188	1,161	167	40	3	182	13	55	5
Advertising.....	464	85	356	65	22	10	77	10	9	-----
Banking and brokerage.....	1,705	812	1,581	758	9	8	77	35	38	11
Insurance.....	1,841	1,113	1,650	991	11	12	135	104	45	6
Real estate.....	686	159	560	139	15	8	90	12	21	-----
Miscellaneous.....	1,182	289	924	195	43	17	186	73	29	4
Transportation and communica- tion:										
Air transportation.....	41	2	34	2	-----	-----	7	-----	-----	-----
Construction, maintenance, streets, roads, sewers.....	2,017	26	671	18	113	2	1,164	5	69	1
Express trucking, bus, and cab companies.....	3,538	110	2,438	97	183	3	843	10	74	-----
Garages and filling stations.....	4,508	105	3,558	86	150	5	703	12	97	2
Postal services.....	888	70	829	58	18	4	20	6	21	2
Steam railroads.....	2,214	38	1,748	36	106	-----	293	2	67	-----
Street railroads.....	1,097	28	911	28	21	-----	126	-----	39	-----
Telephone, telegraph, and radio.....	1,002	1,176	864	1,056	19	40	98	69	21	11
Water transportation.....	1,313	27	841	22	153	2	287	3	32	-----
Other service.....	201	18	167	17	13	-----	19	1	2	-----
Food industries:										
Bakeries.....	2,459	351	2,032	290	56	19	325	41	46	1
Breweries, distilleries, and bev- erages.....	736	55	605	51	35	2	66	2	30	-----
Slaughter and packing houses.....	340	49	253	33	20	6	59	8	8	2
Other food.....	739	222	586	167	32	15	101	38	20	2
Public service:										
City.....	6,815	4,350	5,374	4,005	265	106	1,031	184	145	55
State.....	2,283	735	1,889	668	15	8	254	51	125	8
Federal.....	5,127	303	4,911	275	15	5	137	21	64	2
Electric light and gas.....	2,820	395	2,509	372	35	7	221	13	55	3
Domestic and personal service:										
Hotels, restaurants, cafes, sa- loons, apartments.....	4,736	2,276	3,717	1,832	140	100	760	309	119	35
Laundries, cleaning, pressing.....	1,443	1,351	1,177	1,106	47	85	176	143	43	17
Other.....	5,260	10,512	4,050	8,049	211	744	878	1,541	121	178
Professional and semiprofessional service.....	6,503	6,163	5,812	5,443	122	189	401	395	168	186
Recreation and amusement.....	1,456	285	926	208	117	39	378	34	35	4
General:										
Farming.....	6,445	184	4,962	161	202	3	1,031	8	250	12
Fishing.....	1,138	22	712	19	94	1	296	1	36	1
Forestry.....	618	21	319	20	19	-----	264	1	16	-----
Quarrying, mining, sand, and gravel.....	453	8	250	6	46	-----	147	2	10	-----
Other industries.....	118	3	33	3	5	-----	78	-----	2	-----
Industry not reported.....	4,345	386	959	43	300	25	2,692	110	394	208

¹ According to this classification, patterned after one used by the U. S. Bureau of the Census, all gainful workers (laborers, operatives, skilled craftsmen, clerks, or executives) are included under the industry or service in which engaged.

² Includes those on relief projects.

³ Because of industrial disputes, sickness, or physical incapacity.

Farm Labor: Special Problems

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Farm Labor: Special Problems

In this section are summaries of articles on some special phases of farm labor. An outstanding difference between farm labor and industrial labor is the predominance on farms of a group commonly described as family workers as distinguished from hired workers. The proportion of farm labor that is employed for wages varies regionally to an extreme degree, and seasonal variations in employment also depend to a significant extent on location. The most obvious difference between agricultural and industrial labor is the extent of concentration, farm labor being much more widely distributed. These differences affect public policy and administration, such as the question of coverage of farm workers by social-security legislation. The nature of farming operations and the extent of opportunity for nonagricultural employment of farm workers give rise to a varying amount of part-time farming in different sections of the country. Throughout most of the country the growth of farm tenancy has created problems which were the subject of study and recommendations by the President's Committee on Farm Tenancy. Another phase of farm labor discussed in this section is the comparative status of wage workers and sharecroppers in the South.

The more general phases of farm labor are treated in other sections of this volume. Farm wage rates are summarized in the section on wages and hours. Employment and total wage payments are given in the section on employment and pay rolls. Various phases of migration of farm workers are presented in the section on migratory labor. There are summaries of information on the productivity of farm labor in the section on labor productivity. Some information on public policy relating to farm wages is presented in the section on regulation of wages and hours.



Hired Workers and Family Workers on Farms¹

Characteristics of Family-Worker and Hired-Worker Groups

The group classified as family workers includes farm operators and members of their families, when working on their farms without wages. Tenants of all types, as well as owners and part owners, are classed as farm operators. Thus, farms worked by southern sharecropper tenants in 1935 numbered 716,256, and the sharecroppers and their families numbered about 3,120,000 persons, divided almost equally

¹ Summary of an article on Farm Employment, 1909 to 1938, in *Monthly Labor Review*, June 1939. (Reprinted as part of Serial No. R. 976.)

between whites and Negroes.² Sharecroppers depend wholly on their landlords for capital and receive a share of their crop as compensation for their labor. They are nevertheless defined by the Bureau of the Census as farm operators and are here classified not as hired workers but as family workers.

The above figures for hired farm workers include hired managers and foremen. In 1935, the number of farms operated by managers as distinguished from owners and tenants was 48,104 and the acreage of farms operated by managers in that year was 5.8 percent of all farm acreage.

Farming in the United States remains largely a family type of enterprise. This is apparent from the small number of hired farm workers as compared to family workers and also from the concentration of hired workers on relatively few farms in restricted areas.

TABLE 1.—*Distribution of hired farm laborers in principal farming areas, by number of laborers employed per farm, January 1935*¹

Area	Number of farms reporting no hired laborers	Number of farms reporting hired laborers	Total number of hired laborers ²	Percentage of hired laborers on farms reporting—	
				4 or more	8 or more
United States.....	5,844,756	967,594	1,645,602	31.4	17.6
Corn.....	767,108	142,171	181,433	11.9	5.3
Eastern dairy.....	367,327	112,989	171,347	22.1	10.7
Western dairy.....	492,906	106,790	130,389	8.0	3.0
Middle eastern.....	1,055,043	144,885	226,304	23.1	8.3
Eastern cotton.....	593,761	95,742	192,670	40.9	19.2
Delta cotton.....	635,615	51,297	131,932	54.5	37.4
Western cotton.....	626,421	87,921	163,056	36.1	20.0
Small grain.....	465,681	60,987	111,561	14.1	4.9
Range.....	149,746	25,969	61,506	50.3	33.9
Northwestern.....	169,612	24,708	41,667	28.9	12.3
Miscellaneous ³	473,536	114,125	263,457	49.7	34.0

¹ Data are from Monthly Labor Review, September 1937: Distribution of Hired Farm Laborers in the United States. The information was derived from the special Agricultural Census of 1935. Employment during most of the year is normally larger than in January.

² Excludes hired managers and foremen who are included in the other tables.

³ Maine, Rhode Island, New Jersey, Delaware, Florida, Missouri, California.

The number of farms in the United States in 1935, according to the Census of Agriculture of that year, was 6,812,350. In January 1935 (the date of the census), hired workers were employed on less than 1,000,000 of these farms, and even in July, during the peak of employment, the estimated number of farms on which workers were hired was less than 1,500,000. There was thus a significant concentration of hired labor on a comparatively small number of farms. In

² U. S. Bureau of the Census. Census of Agriculture, 1935, vol. 3. Washington, 1937. The other principal sources of information here utilized relating to the characteristics of the family-worker and hired-worker groups are U. S. Works Progress Administration, National Research Project, Report No. A-8; Trends in Employment in Agriculture, 1909-36, by Eldon E. Shaw and John A. Hopkins, Washington, 1938; U. S. Congress, Senate, Special Committee to Investigate Unemployment and Relief (75th Cong., 3d sess.), Hearings pursuant to S. Res. 36, vol. 2, pp. 1043-1085, 1099-1171, 1520-1612, Washington, 1938; U. S. Farm Security Administration, Social Research Report No. 8, Disadvantaged Classes in American Agriculture, by C. C. Taylor, H. W. Wheeler, and E. L. Kirkpatrick, Washington, 1938; U. S. Department of Agriculture, Income Parity for Agriculture, part 2, section 1, The Cost of Hired Farm Labor, 1909-38 (preliminary), Washington, 1939; and articles in the Monthly Labor Review, especially an article in the September 1937 number by Julius T. Wendzel on "Distribution of Hired Farm Laborers in the United States" (reprinted as Serial No. R. 625).

addition, these farms were located mainly in limited areas of the country. In January approximately one-third of hired laborers as reported to the Bureau of the Census were on farms with 4 or more laborers, and about one-sixth were on farms with 8 or more laborers. The areas of largest concentration of farms with groups of hired workers, as distinguished from a single hired hand, were the Delta cotton and range areas, and in the group of miscellaneous States (table 1), Florida and California. In California 59.1 percent of hired workers were on farms employing 4 or more and 42.0 percent were on farms employing 8 or more. Corresponding figures for Florida are 60.9 percent and 45.6 percent. In Arizona the concentration was even greater. In that State 68 percent of hired workers were employed on farms with 8 or more. These figures follow the census classification of sharecroppers as farm operators and not as hired workers. Their inclusion with hired workers would significantly affect the figures, especially for the Delta cotton area.

Seasonal Variations³

Estimates of seasonal variation in total agricultural employment for the United States as a whole indicate that January is the month of least employment and June the month of greatest employment. The amount of employment in the high month has usually been about 43 percent greater than the amount in the low month. Variations in some areas have been much greater. In the area of least variation, the corn area, the amount of employment in the high month has been only about 24 percent greater than the amount in the low month. In the area of greatest variation, the eastern cotton area, there has been about 86 percent more employment in the high month than in the low month. Variations in the employment of hired workers are much more extreme.

Seasonal variation in the employment of family workers is comparatively unimportant because the agricultural income of family workers is in the form of the product of the entire year's work, and the converse of employment on farms is not necessarily unemployment. Hired farm workers, on the other hand, depend on the wages they receive while actually at work. Seasonal variation in the employment of hired farm workers is therefore vastly more serious than the seasonality of work done by family workers.

The seriousness of seasonal variation in the employment of hired farm workers is the more apparent in view of the fact that the variation is much greater than in the case of family workers. (See table 2.)

³ The data here used on seasonal variation are from Eldon E. Shaw and John A. Hopkins, *op. cit.*; and U. S. Works Progress Administration, *Seasonal Employment in Agriculture*, by Benjamin J. Free, Washington, 1938. The sources, methods of computation, and serious limitations of available data are discussed in these volumes.

TABLE 2.—Indexes of seasonal variation in agricultural employment, 1925 to 1936 ¹

Month	All workers			Family workers			Hired workers		
	United States	Area of—		United States	Area of—		United States	Area of—	
		Greatest variation (eastern cotton)	Least variation (corn)		Greatest variation (eastern cotton)	Least variation (corn)		Greatest variation (north-western)	Least variation (middle eastern)
12-month average..	100	100	100	100	100	100	100	100	100
January.....	81	70	89	84	71	95	70	61	73
February.....	84	74	89	87	74	96	72	65	74
March.....	88	82	91	90	81	97	80	77	84
April.....	96	97	100	98	96	101	94	83	96
May.....	107	116	104	107	116	104	108	106	105
June.....	116	130	106	115	129	104	119	114	117
July.....	113	116	110	111	116	106	120	135	121
August.....	104	93	109	102	96	104	111	136	108
September.....	106	109	100	104	109	100	111	159	107
October.....	114	130	102	111	131	99	122	108	120
November.....	103	107	103	102	107	99	107	86	106
December.....	88	76	96	89	77	96	84	62	89
Percentage variation—high month from low month.....	43	86	24	37	84	12	74	161	66

¹ Data are from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36.

The hired workers employed in January 1935, totaling somewhat more than 1,500,000, according to the Census of Agriculture, were for the most part regularly employed workers, although special conditions call occasionally for extra workers even in January. The winter lull that begins in September extends into February. In February, however, there is some demand for additional labor for such work as plowing in the cotton area and work on the truck farms and in the fruit-growing regions of the South. From May to July, high seasonal employment is general, although in many of the fruit sections the summer decline begins in July. There is a general decline in August, except in the truck areas, where operations connected with canning require additional labor. The fall upturn reaches its peak in the various regions at different times extending from September to November. In November the winter decline sets in, except for corn husking and cotton picking in limited parts of these crop areas.

Employment by Regions

During the past three decades, agricultural employment has varied widely in the different farming areas. The decline in number of workers was greatest in the eastern dairy, eastern cotton, corn, and middle eastern areas. In the northwestern and range areas, increases in the number of farm workers were accounted for mainly by the increased acreage in these areas. There were also increases both in acreage and in agricultural employment in California. In the other main farming areas (the western dairy, Delta cotton, western cotton, and small grain areas), the average number of farm workers underwent few significant changes.

TABLE 3.—*Estimated number of farm workers in principal farming areas of the United States in 1936*¹

Area	Total (thou- sands)	Family workers		Hired workers	
		Number (thousands)	Percentage of total	Number (thousands)	Percentage of total
Total.....	10, 997	8, 502	77	2, 494	23
Corn area.....	1, 235	950	77	285	23
Eastern dairy area.....	737	502	68	235	32
Western dairy area.....	922	714	77	208	23
Middle eastern area.....	1, 904	1, 576	83	328	17
Eastern cotton area.....	1, 383	1, 091	79	292	21
Delta cotton area.....	1, 342	1, 099	82	242	18
Western cotton area.....	1, 145	909	79	236	21
Small grain area.....	742	606	82	136	18
Range area.....	308	196	64	112	36
Northwestern area.....	292	212	73	80	27
Miscellaneous ²	987	647	66	340	34

¹ Data are from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36.

² California, Missouri, Florida, Delaware, New Jersey, Rhode Island, Maine.

The areas with highest percentages of hired farm workers in 1936 were California and Florida, among the miscellaneous States, and the eastern dairy, the range, and the northwestern areas. In California the problem of estimating farm employment has been complicated, especially in recent years, by the high proportion of migratory workers, but even in January 1935, when comparatively few migratory workers were employed, the number of hired workers was about 43 percent of total agricultural employment. The corresponding figure for Florida was 38 percent. The area with the smallest percentage of hired farm workers in 1936 was the middle eastern, with 17 percent. (See table 4.) The cotton areas also had comparatively small percentages of hired workers, but comparisons of these areas, especially the Delta cotton area, with other regions must take account of the fact that sharecropping there is widely prevalent, the sharecroppers frequently having a status essentially below that of hired workers in many other parts of the country.

TABLE 4.—*Hired farm workers as percentages of total farm workers in the United States and in principal areas, in selected years*¹

Year	United States	Corn	Eastern dairy	Western dairy	Middle eastern	Eastern cotton	Delta cotton	Western cotton	Small grain	Range	Northwestern
1909.....	.23	26	35	23	20	18	19	19	23	40	33
1918.....	24	28	35	25	21	18	19	23	23	41	32
1927.....	26	29	35	29	20	23	17	23	27	40	28
1936.....	23	23	32	23	17	21	18	21	18	36	27

¹ Data are from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36; and U. S. Department of Agriculture, Crops and Markets, January 1939.

The proportions of hired workers in the several areas and the changes in these proportions during the period since 1909 have been affected by the changing size of farms and types of production, and by technological changes tending to reduce the amount of labor required per acre or per farm. Changes in business conditions and public policies have also affected the proportions, as when depression has increased the number of family workers, especially those engaged in subsistence farming.

Distribution of Hired Farm Laborers in the United States ¹

The belief that farming in the United States is largely a family enterprise in which the family head is assisted by few if any hired laborers is not unfounded. Census figures for January 1935 show that no hired labor was employed on 5,845,000 out of a total of 6,812,000 farms. The average number of hired laborers for all farms was 0.24, and for farms reporting hired labor was only 1.7. These averages, however, conceal the fact that a relatively large number of hired farm laborers were on farms employing hired labor in substantial numbers, and that these hired laborers were concentrated on a very small number of farms.

In order to obtain more complete data on the number of farms employing various numbers of farm laborers, the Social Security Board requested the Bureau of the Census to make a special tabulation of the 1935 farm census data to show a distribution of farms by number of hired laborers reported. The results of this tabulation are presented in table 1, by geographic divisions and States.

These data indicate that in January 1935 there were comparatively few farms in the United States on which more than two laborers were hired. Only 107,000 farms reported three or more laborers; this is but 11.1 percent of all farms reporting hired labor and 1.6 percent of all farms. On the other hand, nearly 650,000 laborers, or almost 40 percent of the total number, were employed on these farms.

TABLE 1.—Number of hired laborers on farms reporting specified numbers of hired laborers, by geographic divisions and States, January 1935 ¹

Division and State	Total number of farms	Number of hired laborers on farms reporting—							
		1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	8 or more	10 or more
United States.....	6,812,350	1,645,602	922,957	647,617	517,207	427,263	364,598	289,168	244,132
New England.....	158,241	63,440	36,724	24,548	18,623	14,847	12,407	9,491	7,790
Maine.....	41,907	11,440	5,284	3,158	2,195	1,523	1,123	677	478
New Hampshire.....	17,695	6,067	3,082	1,836	1,260	912	712	558	432
Vermont.....	27,061	10,822	4,333	2,043	1,344	992	792	513	397
Massachusetts.....	35,094	19,247	13,787	10,269	8,196	6,744	5,794	4,479	3,708
Rhode Island.....	4,327	2,536	1,826	1,356	1,086	910	775	667	481
Connecticut.....	32,157	13,328	8,412	5,886	4,542	3,766	3,211	2,597	2,294
Middle Atlantic.....	397,684	139,065	66,352	40,034	28,727	22,339	18,319	13,550	10,848
New York.....	177,025	67,751	30,007	17,049	11,445	8,521	6,661	4,611	3,396
New Jersey.....	29,375	17,182	11,356	7,976	6,275	5,099	4,304	3,424	2,944
Pennsylvania.....	191,284	54,132	24,989	15,009	11,007	8,719	7,354	5,515	4,508
East North Central.....	1,083,687	224,444	75,516	38,936	26,219	20,087	16,282	11,515	8,948
Ohio.....	255,146	49,537	19,143	11,157	8,112	6,416	5,366	3,970	3,142
Indiana.....	200,835	34,070	11,393	5,989	3,982	2,942	2,332	1,446	1,026
Illinois.....	231,312	49,294	16,648	8,848	6,010	4,670	3,860	2,901	2,459
Michigan.....	196,517	39,192	13,117	7,455	5,205	4,021	3,156	2,167	1,591
Wisconsin.....	199,877	52,351	15,215	5,487	2,910	2,038	1,568	1,031	730

¹ Source: Bureau of Research and Statistics, Social Security Board. Prepared from unpublished data tabulated at the request of the Social Security Board by the Bureau of the Census.

² Abstract of an article by Julius T. Wendzel, Social Security Board, in the Monthly Labor Review for September 1937.

TABLE 1.—Number of hired laborers on farms reporting specified numbers of hired laborers, by geographic divisions and States, January 1935—Continued

Division and State	Total number of farms	Number of hired laborers on farms reporting—							
		1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	8 or more	10 or more
West North Central.....	1, 179, 856	196, 158	63, 521	32, 283	21, 087	14, 787	10, 992	7, 133	5, 037
Minnesota.....	203, 302	38, 846	9, 611	3, 933	2, 292	1, 520	1, 110	671	470
Iowa.....	221, 986	48, 532	12, 582	5, 656	3, 508	2, 468	1, 873	1, 370	1, 148
Missouri.....	278, 454	40, 742	17, 815	11, 223	7, 989	5, 757	4, 352	2, 913	1, 937
North Dakota.....	84, 606	13, 495	4, 319	1, 793	1, 076	668	488	267	58
South Dakota.....	83, 303	8, 209	2, 240	956	563	415	305	197	146
Nebraska.....	133, 616	20, 300	6, 597	3, 239	2, 072	1, 528	1, 193	730	557
Kansas.....	174, 589	26, 034	10, 357	5, 483	3, 587	2, 431	1, 671	985	721
South Atlantic.....	1, 147, 133	358, 175	232, 113	168, 273	135, 045	109, 865	92, 825	71, 341	58, 116
Delaware.....	10, 381	3, 057	1, 577	1, 073	866	746	636	543	494
Maryland.....	44, 412	22, 973	12, 998	7, 724	5, 564	4, 268	3, 403	2, 469	1, 981
District of Columbia.....	89	257	237	217	205	189	184	184	175
Virginia.....	197, 632	52, 310	29, 201	18, 389	13, 151	9, 963	7, 953	5, 449	3, 945
West Virginia.....	104, 747	15, 032	7, 102	4, 008	2, 628	1, 792	1, 222	592	395
North Carolina.....	300, 967	59, 321	29, 841	18, 513	13, 233	9, 537	6, 847	3, 944	2, 375
South Carolina.....	165, 504	53, 140	37, 640	27, 350	21, 893	17, 117	13, 737	9, 532	6, 593
Georgia.....	250, 544	91, 458	64, 961	49, 723	40, 567	33, 015	27, 810	20, 983	16, 649
Florida.....	72, 857	60, 627	48, 556	41, 276	36, 938	33, 238	31, 033	27, 654	25, 609
East South Central.....	1, 137, 219	160, 025	93, 497	63, 535	48, 583	37, 135	29, 015	20, 103	14, 928
Kentucky.....	278, 298	36, 915	19, 975	12, 417	8, 508	6, 024	4, 544	2, 832	2, 114
Tennessee.....	273, 783	39, 496	20, 857	12, 659	8, 966	6, 434	4, 909	3, 210	2, 242
Alabama.....	273, 455	48, 072	28, 866	20, 612	16, 337	12, 673	9, 788	6, 547	4, 446
Mississippi.....	311, 683	35, 542	23, 799	17, 847	14, 772	12, 004	9, 774	7, 514	6, 126
West South Central.....	1, 137, 571	259, 426	177, 660	137, 394	116, 010	100, 074	88, 099	74, 438	66, 448
Arkansas.....	253, 013	39, 974	29, 964	24, 576	21, 435	18, 923	16, 873	14, 706	13, 201
Louisiana.....	170, 216	56, 416	46, 357	39, 703	35, 680	32, 512	30, 217	27, 152	25, 303
Oklahoma.....	213, 325	31, 444	18, 517	9, 347	6, 455	4, 607	3, 267	2, 010	1, 303
Texas.....	501, 017	131, 592	85, 822	63, 768	52, 440	44, 032	37, 742	30, 570	26, 641
Mountain.....	271, 392	84, 141	57, 854	44, 574	37, 584	32, 540	28, 765	23, 656	21, 124
Montana.....	50, 564	13, 523	8, 025	5, 445	4, 224	3, 268	2, 673	1, 853	1, 513
Idaho.....	45, 113	8, 812	4, 800	3, 076	2, 269	1, 741	1, 351	870	622
Wyoming.....	17, 487	7, 001	4, 819	3, 639	2, 877	2, 397	2, 047	1, 486	1, 257
Colorado.....	63, 644	15, 228	8, 826	5, 822	4, 196	3, 004	2, 244	1, 250	832
New Mexico.....	41, 369	11, 364	7, 670	5, 650	4, 063	3, 887	3, 277	2, 505	2, 129
Arizona.....	18, 824	20, 964	18, 613	17, 213	16, 325	15, 693	15, 083	14, 212	13, 621
Utah.....	30, 695	5, 183	3, 538	2, 518	2, 041	1, 721	1, 381	948	755
Nevada.....	3, 696	2, 066	1, 563	1, 211	989	829	709	532	395
Pacific.....	299, 567	190, 728	119, 720	98, 040	85, 329	75, 589	67, 894	57, 941	50, 893
Washington.....	84, 381	17, 568	10, 187	6, 843	4, 947	3, 767	2, 952	1, 990	1, 431
Oregon.....	64, 826	15, 287	9, 084	6, 268	4, 843	3, 931	3, 291	2, 280	1, 725
California.....	150, 360	127, 873	100, 449	84, 929	75, 539	67, 891	61, 651	53, 671	47, 737

Geographical Differences

The January 1935 data exhibit striking differences among different areas, as may be seen from table 2. The percentage of all hired farm labor on farms with three or more varied from 16.5 percent in the West North Central to 61.0 percent in the Pacific division, and from 10.1 percent in Minnesota to 82.1 percent in Arizona. Not the least striking fact is the large proportion of hired farm labor employed in groups of eight or more in some sections of the country. Thirty-six percent of all farm laborers working for wages in the Pacific division and 68 percent in Arizona were employed on farms with eight or more hired workers. In general, the relative extent to which farm laborers are hired in relatively large numbers differs greatly from region to region.

TABLE 2.—Cumulative percent distribution of farms and hired laborers by number of hired laborers per farm, for selected areas, January 1935

Number of hired laborers on farm	United States		West North Central division		Pacific division		Minnesota		Arizona	
	Percent of farms	Percent of farm laborers	Percent of farms	Percent of farm laborers	Percent of farms	Percent of farm laborers	Percent of farms	Percent of farm laborers	Percent of farms	Percent of farm laborers
1 or more.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2 or more.....	25.3	56.1	14.7	32.4	36.6	74.5	11.5	24.7	45.3	88.8
3 or more.....	11.1	39.4	4.6	16.5	19.8	61.0	2.9	10.1	29.0	82.1
4 or more.....	6.6	31.4	2.2	10.8	13.3	53.1	1.2	5.9	22.1	77.9
5 or more.....	4.3	26.0	1.2	7.5	9.5	47.0	.6	3.9	18.4	74.9
6 or more.....	3.0	22.2	.7	5.6	7.1	42.2	.4	2.9	15.6	71.9
7 or more.....	2.1	19.2	.5	4.4	5.5	38.4	.3	2.3	13.5	69.4
8 or more.....	1.7	17.6	.3	3.6	4.7	36.0	.2	1.7	12.4	67.8
9 or more.....	1.3	15.7	.2	2.9	3.9	33.3	.1	1.4	11.1	65.6
10 or more.....	1.2	14.8	.2	2.6	3.4	31.7	.1	1.2	10.7	65.0

Seasonal Fluctuations

The data so far considered relate to the single month of January 1935, the month in which the Census of Agriculture was taken. It is obvious that data for a single winter month cannot be accepted as representative, since total farm employment in summer far exceeds the January level. Moreover, the use of January data may distort regional differentials, since the relative level of January employment is different in different areas.

Unfortunately, data for other months are not available, and estimates which can be derived from existing material are subject to serious limitation as to accuracy. In order to give a rough idea of the nature of the bias in the January data, however, tentative estimates for July have been prepared and are shown in table 3.²

Table 3 permits comparison between July estimates and the census figures for January. The total number of farms with hired labor in July is estimated at 1,482,000, as compared with 967,000 in January; while the total number of hired laborers for July is estimated at 2,680,000, as compared with 1,645,000 in January. The July estimates show nearly 184,000 farms with three or more hired laborers, and more than 1,156,000 hired laborers on these farms, whereas the corresponding census figures for January were 107,000 farms and 648,000 hired laborers.

TABLE 3.—Cumulative distribution of farms and hired laborers by number of hired laborers per farm, January and July 1935

Number of hired laborers	Farms				Hired farm laborers			
	Number		Percent		Number		Percent	
	January	July (estimate)	January	July (estimate)	January	July (estimate)	January	July (estimate)
1 or more.....	967, 594	1, 482, 697	100.0	100.0	1, 645, 602	2, 679, 340	100.0	100.0
2 or more.....	244, 949	408, 299	25.3	27.5	922, 957	1, 604, 942	56.1	59.9
3 or more.....	107, 279	183, 880	11.1	12.4	647, 617	1, 156, 104	39.4	43.1
4 or more.....	63, 509	109, 535	6.6	7.4	517, 207	933, 009	31.4	34.8
5 or more.....	41, 325	70, 994	4.3	4.8	427, 263	778, 905	26.0	29.1
6 or more.....	28, 790	49, 700	3.0	3.4	364, 593	672, 435	22.2	25.1
7 or more.....	20, 570	36, 129	2.1	2.4	315, 278	591, 009	19.2	22.1
8 or more.....	16, 840	29, 598	1.7	2.0	289, 168	545, 292	17.6	20.4
9 or more.....	15, 006	23, 269	1.3	1.6	268, 496	494, 660	15.7	18.5
10 or more.....	11, 410	20, 122	1.2	1.4	244, 132	466, 337	14.8	17.4

² The methods used in making these estimates are given in the original article.

From the July estimates, it appears that the census data understate by a wide margin the number of farms with a relatively large number of hired laborers as well as the number of hired laborers on such farms. They appear to understate by a similar margin the total number of farms with hired labor and the total number of hired laborers.

Throughout the foregoing discussion, the census practice of considering sharecroppers as farm operators has been followed. There is, however, a strong basis for considering them as hired employees of the plantation owners. It is usually considered that a primary condition of an employer-employee relationship is the ownership of the tools of production by the employer, and that this condition is fundamental to employee insecurity. By this criterion, it is clear that sharecroppers should be regarded as employees rather than independent farm operators. When it is noted that the 1935 Census of Agriculture reported well over 700,000 sharecroppers, it becomes obvious that, should sharecroppers be considered as employees, many of the figures given above would be greatly modified.



Part-Time Farming in Pennsylvania, Connecticut, and Indiana ¹

Part-time farming in the past commonly arose from the need of farm families to supplement their income by means of outside work. In recent years, and especially since the end of the World War, part-time farming has been the result of a movement of city people, mostly industrial and white-collar workers, onto small parcels of land adjacent to the cities or industries in which they are employed, in order to add to their incomes and to obtain greater security and more healthful surroundings for their families. The automobile, good roads, and more leisure time, because of shorter working hours in industry, have facilitated this movement back to the land.

The present article is based on surveys made in Pennsylvania, Connecticut, and Indiana.² The three studies are not entirely comparable, as the definitions of a part-time farm adopted in these studies varied,³ but the findings therein are of interest as representing conditions in different States.

Extent and Relative Importance of Part-Time Farming

Part-time farming in Pennsylvania is found in greater concentration near industrial centers, in coal-mining and slate and cement areas, and near car-repair shops. The average size of 887 part-time farms

¹ From the Monthly Labor Review for September 1939.

² Pennsylvania, State College: School of Agriculture and Experiment Station, Bull. No. 361: Part-Time Farming in Six Industrial Areas in Pennsylvania, State College, 1938; Connecticut, State College, Storrs Agricultural Experiment Station, Bull. No. 201, Part-Time Farming in Connecticut, by I. G. Davis and L. A. Salter, Jr., Storrs, 1935; and two studies of suburbanization in Connecticut—Bull. No. 212, Windsor, A Highly Developed Agricultural Area, by N. L. Whetten and E. C. Devereux, Jr., Storrs, 1936; and Bull. No. 226, Norwich, An Industrial Part-Time Farming Area, by N. L. Whetten and R. F. Field, Storrs, 1938; Indiana, Purdue University, Agricultural Experiment Station, Bull. No. 410: Part-Time Farming in Indiana, Lafayette, 1936.

³ A part-time farm was defined as follows: Pennsylvania: (1) At least three-quarters of an acre under cultivation or \$100 worth of produce raised; (2) 50 days' work off the place or \$150 income from nonagricultural sources. Connecticut: Farms of 3 or more acres with total farm production representing substantially less than full-time yearly employment for 1 man. Indiana: One-half acre or more producing considerable portion of family living, the operator of which spent part of his time in a major occupation other than farming, or received other income, such as pensions, annuities, rents, or interest.

in six industrial areas surveyed in 1936 was 20.8 acres, and 46 percent of the land was cultivated. The most common products of these farms were corn, potatoes, grain, hay, fruit, and garden crops. Livestock (a cow, hogs, a horse or mule, and poultry) was kept by the farmers. The average investment in lands, buildings, equipment, and livestock was \$2,587.

In Indiana, according to the 1930 census, 7.9 percent of the approximately 182,000 farms were part-time farms, and they contained 2.6 percent of the total farm acreage. The part-time farms were located in greater numbers near industrial centers and in the limestone and the coal-mining districts. The average purchase price was \$2,228 per farm. Less than 1 percent of the farm products marketed in Indiana was from part-time farms.

Sixty percent of the more than 30,000 farms in Connecticut in 1935 were worked on a part-time basis. Although these farms were in all parts of the State, the greatest concentration was in urban and industrial areas. Part-time farms included 35 percent of the total farm acreage but sold less than 3 percent of the total farm products marketed in the State.

Characteristics of Part-Time Farmers

The majority of the part-time farmers studied in the three States were native-born. In Pennsylvania only 16 percent were foreign-born and in Connecticut 29 percent. Approximately 80 percent of those in Pennsylvania were between 35 and 64 years of age and 50 percent were between 45 and 64 years. In Indiana the average age was 44 years, and in Connecticut it was 57 years. The average size of the part-time farm family in the industrial areas in Pennsylvania was 4.8 persons. In Indiana there was an average of 4.44 persons per family. The average family had 2.54 persons over 18 years of age and 1.9 persons under 18 years. In 28 percent of the families in Connecticut there were children under 16 years and in 29 percent there were children over 16 years.

The tenure of part-time farmers on their farms averaged 9.4 years in Indiana, 12 years in Pennsylvania, and 19 years in Connecticut, though 35 percent of the farmers in Connecticut had lived on their farms less than 10 years. Seventy-eight percent of the farmers in Pennsylvania owned their farms, as compared with 79 percent in Indiana and 87 percent in Connecticut.

Eighty-five percent of the part-time farmers in Pennsylvania had been brought up in the country. In Indiana, on the average, part-time farmers had had several years of farm experience, and in Connecticut the majority of the farmers had had previous experience in farming.

Nonagricultural Occupations of Part-Time Farmers

In Pennsylvania 39 percent of the part-time farmers studied were in manufacturing and mechanical occupations, 17 percent in mining, 12 percent in transportation, 13 percent in Federal relief employment, and 19 percent in other occupations. Over half (53.8 percent) of those in Indiana were employed in industry (including coal miners and stone workers); 15 percent were in business for themselves; 30 percent were in other occupations; and 1 percent were unemployed.

More than 300 different outside occupations were represented by the part-time farmers surveyed in Connecticut. Twenty percent of them were craftsmen or factory workers, and others were industrial executives, public-service employees, doctors, lawyers, small retailers, etc. A considerable proportion (41 percent) were retired or unemployed but presumably had resources outside the farm. In an estimated 11 percent of the farm families both operators and children were working away from the farms.

Incomes and Expenses of Part-Time Farmers' Families

The average income from their farms of the selected part-time farmers' families in Pennsylvania in 1935 was \$621, which included \$222 from the sale of farm products, \$242 as the value of farm products consumed by the family, \$11 increase in the farm inventory, and \$146 for use of farm dwelling. The average farm expenses were \$432, and the average net farm income was therefore \$189. The sum of \$773 was earned in outside occupations, 85.7 percent of which was earned by the farm operator and 14.3 percent by other members of the family. Miscellaneous receipts averaging \$67 raised the total income per family to \$1,029. If the cost of commuting be deducted, the total income would be \$952. Forty-four percent of the work done on the farm was done by the operator, 26 percent by the housewife, 26 percent by the children, and 4 percent by other members of the household.

In Indiana 84 percent of the cash income of the part-time farmers surveyed was derived from outside occupations, 10 percent from the sale of farm products, and 6 percent from other sources. The average total cash income in 1933 ⁴ was \$577. Eighty-seven percent of the cash income from outside work was earned by the head of the family, 11 percent by the wife and children, and 2 percent by other members of the household. The average value of all the products of the farm was \$201 and of those consumed by the family, \$141. Approximately 31 percent of the real income of the family came from the farm. The total income of owners of farms was \$823 and total expenses were \$725, the surplus being \$98. Renters had a total income of \$627, total expenses of \$557, and a surplus of \$70.

The main income of the selected part-time farmers' families in Connecticut came from the outside work of the members of the family; this amounted to \$738 or 69 percent of the total income in the year covered (1933). The value of the food and fuel produced for home use was \$243, or 23 percent of the total income. The sale of farm products was a negligible source of income, forming only 4 percent of the total. The gross income was \$1,074 and the total expenses, including farm and living expenses, were \$977, leaving a surplus of \$97.

Standard of Living of Part-Time Farmers' Families

Fifty-six percent of the homes of the selected part-time farmers in Pennsylvania were lighted by electricity, 33 percent had a furnace,

⁴ It is stated in the report that as agricultural, economic, and industrial conditions were below normal in that year, normal incomes can be assumed to be higher.

20 percent had hot water, and 20 percent had a bathroom. Over three-fourths (75.6 percent) of the families had automobiles, and almost as many (71.5 percent) had radios. Seventeen percent had telephones.

In Indiana the housing and living conditions of the part-time farmers' families studied varied somewhat with the region, but on the average, compared favorably with the average in their respective communities. Almost all of the houses (95 percent) were of frame construction, and they averaged 4.64 rooms per house or about 1 room per person. About one-sixth of the houses (17 percent) needed considerable immediate repair. Most of these were in the coal-mining area.

Automobiles were owned by 77 percent of the families in the industrial area, 72 percent in the limestone area, and 70 percent in the coal-mining area. Forty-five percent of all the families had radios.

In Connecticut, 28 percent of the part-time farmers' families lived in comfort, their houses being neatly painted and decorated and in a good state of repair. The living conditions of the majority (60 percent) were those usual in their sections. Only 5 percent of the families did not have essential sanitary facilities, comfortable furniture, and weatherproof houses.



Part-Time Farming in the Southeast ¹

The long depression in agriculture, and later, the depression in industry had an important influence on the growth of part-time farming in the Southeast. In recent years industrial workers have sought to supplement their reduced wages in industry with part-time farming, farmers were induced to supplement their reduced farm incomes with off-the-farm employment, and many persons already engaged in combined farming-industrial employment extended their farming activities. One-half of the families surveyed in a study by the Works Progress Administration had been carrying on part-time farming for 6 continuous years prior to 1935, however, indicating that part-time farming enterprises were not undertaken purely as a result of the depression.

Part-time farming in Alabama, Georgia, and South Carolina was carried on by workers in all of the major industries of the region—cotton-textile manufacturing, lumber, naval stores, and coal and iron mining—as well as by workers in other manufacturing and mechanical industries, in transportation and communication industries, in trade, and in public service.

The survey of combined farming-industrial employment in five major subregions of the Southeast showed that economically the part-time farm was an advantage. It required in investment in house and land little more than ordinarily would be spent in housing; it required only a small amount of capital for equipment or livestock; and the expenditure for seed, fertilizer, or hired labor was negligible.

¹ Extract from U. S. Works Progress Administration, Research Monograph IX: Part-Time Farming in the Southeast, Washington, 1937. (In Monthly Labor Review for March 1938.)

A part-time farm enterprise undertaken on as small a scale as those found in the eastern Cotton Belt, however, did not give the operator and his family economic self-sufficiency. At best, it only supplemented a cash wage from employment in industry, and the possibility of carrying on part-time farming activities successfully was contingent upon possession of off-the-farm employment.

In all of the subregions, the part-time farms surveyed were small, and the enterprises were conducted mainly to produce food for home consumption. Most of the farms surveyed had less than 5 acres of cropland, and almost half of them had less than 2 acres. The small acreage was sufficient, however, for the farm to produce a definite contribution to the family living—not only fresher and more abundant products for the diet, but also a monetary saving in grocery bills during the summer months that ranged from a few dollars to as much as \$20 per month.

The value of products consumed by typical part-time farmers during the year ranged from about \$70 by part-time farmers who had only a garden to about \$400 by those with a garden, a cow, several hogs, and a small flock of poultry. Since the majority of the part-time farmers surveyed made less than \$500 a year at their principal off-the-farm employment, the farm's contribution to family living was an important one.

Although most of the part-time farmers kept a cow, a hog or two, and a flock of chickens, a vegetable garden was the activity that was most general. Most part-time farm families were obviously unfamiliar with winter vegetables, but some garden products, such as sweet and Irish potatoes and corn, were stored by two-thirds of the families, while vegetables were canned by three-fifths of the households, thereby prolonging the period of the garden's usefulness through the winter months.

From 3 to 5½ hours a day were required in farm work from April through August on the white noncommercial part-time farms. Although in some cases the head of the family did all of the work alone, the farm tasks were usually shared by members of the family. Few of the part-time farmers spent as much as \$15 for hired labor in 1934.

The part-time farmer's investment in farm buildings and land was small, amounting to less than \$2,000 in over one-half of the cases surveyed. Investment in implements and machinery was practically negligible, most of the farmers owning only a few simple hand tools, such as hoes and rakes.

In order to carry on farming activities, part-time farmers on the average were forced to live slightly farther from their places of work than were the nonfarming industrial workers. But residence at a greater distance from an employment center placed the workers in only one subregion at a disadvantage in securing work, as was shown by a comparison of part-time farmers and nonfarming industrial workers with respect to rates of pay, total earnings, and number of days employed.

Housing cost part-time farm families who lived in the suburbs or open country less than it would have in town. Since families of part-time farmers were larger than those of nonfarming industrial workers, the lower rents, especially for large families, were one of

the advantages that accompanied part-time farming. Nearly one-fourth of the part-time farm families consisted of seven or more persons. Part-time farmers' homes were larger than those of non-farming industrial workers, but because of the larger families, there was slightly more overcrowding in the farm group.

Lack of modern conveniences was one of the disadvantages that frequently accompanied part-time farming, because power lines and water mains were not generally extended into sparsely settled rural areas. Electric lights, running water, and bathrooms were often lacking.

Home ownership was more common among part-time farmers than among the nonfarming industrial workers, but a large proportion of tenancy existed even among part-time farmers, and especially among Negro part-time farmers.

From the social viewpoint, too, the part-time farmer's life had its advantages and disadvantages. In general, more part-time farm than nonfarming industrial families participated in organized social and community life. Also, the extent of participation of part-time farmers was greater than that of nonfarmers in almost every type of activity available to them, which was surprising in view of the greater distances many of them had to go to attend meetings. More members of part-time farm than nonfarm families were in positions of leadership as represented by officeholding, and enumerators in more than one area remarked that the part-time farmers enjoyed a higher social status than that of the nonfarming industrial workers.

Fewer social organizations, however, were available to part-time farmers. Inasmuch as such groups stimulate social intercourse and interest in community affairs, the lack of social organizations was particularly disadvantageous to young people in part-time farm families.

Part-time farming cannot be a solution for unemployment in the eastern Cotton Belt, because possibilities of increased industrial activities which would provide the necessary cash wage are slight. Consequently, part-time farming as an activity can be encouraged only where industry has sufficiently recovered from the depression to offer satisfactory wages and hours to its workers, or where future prospects for an industry's development are promising.



Report of President's Committee on Farm Tenancy ¹

Owing to the increase in farm tenancy, the decrease in farm ownership, and the insecurity of those who still hold their farms but with only small equities, the report of the President's Committee on Farm Tenancy, published in 1937, concluded that the time had come when action must be taken to protect the resources of man-power, natural resources, and investment in agriculture.² The Committee was of the opinion that responsibility rests with both the State governments and the Federal Government and that a start should be made on a small scale, expanding the scope as experience points the way and personnel is trained.

¹ From *Monthly Labor Review* for May 1937.

² National Resources Committee. Report of the President's Committee on Farm Tenancy, Findings and Recommendations. Washington, 1937.

Farm ownership has been regarded throughout the history of the United States as a means of attaining security. However, for the past 55 years the proportion of operating owners in relation to tenants has declined. The tenant farmers increased from 25 percent of all farmers in 1880 to 42 percent of the total in 1935. Moreover, among owners it was estimated that many have equities of little more than one-fifth. The Committee concluded that one farm family out of four is in a precarious situation socially and economically.

The tenancy system contributes to the unsatisfactory farm situation. About two-thirds of the tenants and sharecroppers are located in the South, and in that area two-thirds of this class of labor are white and one-third are Negroes. Southern sharecroppers operate 716,000 farms, which represent 10 percent of all farms in the United States. These sharecroppers, working principally in the cotton and tobacco belts, constitute 48 percent of the total of sharecroppers and farm laborers combined, and 39 percent of all southern tenants.³ Since sharecroppers supply only their labor they are usually the most insecure class of tenants.

Hired farm laborers, which class made up one-fourth of all persons gainfully employed in agriculture in 1930, are most secure when paid by the month on a yearly contract and living on the farms of their employers.

The descent of agricultural workers from one class of tenure to a lower status and the growing difficulty in rising to a higher status have been associated with the general economic depression of recent years.

To prevent wastage of lands through erosion of soils and thus preserve national resources, the condition of farm labor must be ameliorated. The report states: "Tenancy has contributed to soil depletion; soil depletion has in turn contributed materially to the expansion of tenancy and the further impoverishment of tenants and croppers."

Numbers of farm tenants are moving from farm to farm each year. One-fifth to one-fourth of the farm population live in extreme poverty in two- or three-room houses of poor construction. Many of these families are chronically undernourished and subject to pellagra, malaria, and hookworm.

The Federal program, it is believed, should facilitate farm-home ownership and help existing owners to keep their farms. It should further improve the condition of laborers, aid families stranded on submarginal land, take such land out of cultivation, and discourage speculation in farm land. As no agency with adequate powers to correct conditions has attacked these problems, the Committee regarded it as highly important that there be unified and well-integrated leadership. Regular appropriations by Congress for this work were recommended, the work to be expanded as the wisdom of the new policy is demonstrated.

For States, the Committee recommended measures to improve lease contracts and landlord-tenant relationships, modification of the system of taxation on farm lands, and the safeguarding of the civil liberties of tenants. The report states that although it is believed the Federal Government "can do much to improve conditions of tenant farmers,

³ For the purposes of this report the term "tenant" includes both the sharecroppers and the group commonly known as tenants.

some of the most fruitful fields of endeavor are under the jurisdiction of State agencies." In connection with taxation of farm lands, a differential was recommended favoring family-size, owner-operated farms. A policy of complete or partial tax exemption of small homesteads has been favored in various parts of the country in recent years and at least seven States have already adopted the principle.



Wage Laborers and Sharecroppers in Cotton Production

In 1935 there were 716,000 sharecropper families in 16 Southern States and 537,000 in the 8 principal cotton-producing States. In these 8 States the average number of hired farm workers or wage laborers in 1935 was 737,000, and the total number of workers in sharecropper families, assuming 3 workers per family, was 1,611,000. These comparisons were given in a statement, here summarized, by Ernest J. Holcomb, of the United States Bureau of Agricultural Economics, presented before a subcommittee of the Senate Committee on Education and Labor.¹

Some of the wage laborers are regularly employed workers, and many of these live on the employers' farms, and, like sharecroppers, receive payment in part in the form of certain perquisites, such as a cabin, a garden plot, and fuel from the owner's woodlot. If a regularly employed wage laborer is the head of a family, members of his family are frequently employed at certain times of the year and are thus in a sense resident seasonal laborers. In addition to seasonal laborers of this type, there are large numbers of seasonal workers who do not reside on the employer's farm. Such laborers may come from nearby communities, but in many areas there is a large body of migratory labor in cotton production during the peak seasons of cotton chopping and picking. As early as 1930, according to the census of that year, one-third of all hired farm workers in the 16 Southern States lived elsewhere than on farms. Even the hired workers who live on their employers' farms while employed may have long intervals of unemployment.

Types of Labor

There are several types of share laborers as distinguished from wage laborers. In the Southeastern States there are hoe croppers, whose work is limited to hoeing and chopping and the nonmechanical parts of the harvesting. Widows and children of sharecroppers sometimes become hoe croppers. These share laborers usually pay one-fourth of ginning charges and one-fourth of the cost of fertilizers, and usually receive one-fourth of the crops grown. In western Texas, and to some extent in the bottom-land areas of Arkansas, there are patch-croppers who produce the crops but do not

¹ U. S. Department of Agriculture. Bureau of Agricultural Economics. *The Sharecropper and Wage Laborer in Cotton Production*, by Ernest J. Holcomb. Presented before a subcommittee of the Committee on Education and Labor, U. S. Senate, Pursuant to S. Res. 266, Washington, 1940. (Mimeographed.) The summary here given is from the *Monthly Labor Review*, November 1940. Some of the data presented appeared later in a study by E. J. Holcomb and G. H. Aull, *Sharecroppers and Wage Laborers on Selected Farms in Two Counties in South Carolina* (Bulletin 328, June 1940, Clemson Agricultural College and Agricultural Experiment Station, Clemson, S. C.).

harvest the owner's part and who receive the crops on specified tracts, which they must harvest as their compensation. The patch-croppers may also be provided with housing facilities by the owner. These and other types of share laborers are derivatives, however, of the sharecropper type, which is the basic type recognized by the Bureau of the Census.

The sharecropper of the prevailing type supplies all the labor in the production and harvesting of crops and receives a portion, usually one-half, of the product. The owner usually supplies the equipment, the work stock and their feed, and the seed for planting. Such costs as fertilizers and the ginning and bagging of cotton are usually shared. There are numerous variations of these basic arrangements.

Sharecroppers are classified by the Bureau of the Census as tenants. The basis of this classification is the element of risk involved on the part of the sharecropper in depending for his compensation on the uncertain amount of crop harvested and on the uncertain prices received for the product. It is pointed out, however, in the statement here summarized, that the sharecropper's resources are so limited and his relation to the landowner is so dependent as to reduce him to a status not significantly different from that of the wage earner. Sharecroppers customarily depend upon credit advances from landlords for their shares of crop expenses and even for a large part of their living expenses between harvest seasons. The net returns to sharecroppers usually do not differ significantly from the incomes of wage earners.

Trends in Employment of Various Types of Labor

In geographical distribution, sharecroppers are prevalent in the eastern cotton area, including South Carolina, Georgia, and Alabama, and wage laborers are more commonly employed in the western cotton area, including Texas and Oklahoma. In many areas, both forms of labor are in extensive use. In most areas there is much flexibility in the arrangements for labor, with frequent shifts from one status to the other. There is evidence that in many areas there has been a marked tendency toward wage labor. Ordinary tenancy, as distinguished from the sharecropping arrangement, exists in many areas and in some is prevalent.

The censuses of 1920 and 1930 show increases, which in most instances were large, in the number of sharecroppers in all of the cotton States. There was a decline from 1930 to 1935 in the number of sharecroppers in all of the major cotton areas, although not in all of the eight States comprising these areas. Special studies in certain counties indicate a continuation after 1935 of the decline in number of sharecroppers, especially on the larger plantations.²

These studies also reveal the economic basis of the shift in the status of labor in cotton production. Particularly significant is the evidence of instability, which is illustrated by the experience of sharecroppers and wage families in Laurens and Florence Counties,

² This conclusion was borne out by the Census of 1940, the results of which became available after the data here summarized were presented to the subcommittee of the Senate Committee on Education and Labor. The number of tenants classified as sharecroppers in the Southern States as a whole declined from 776,600 in 1930 to 541,000 in 1940.

S. C. Among the workers who had the status of sharecroppers in 1937 in Laurens County, 75.7 percent had been sharecroppers in 1930, 8.6 percent had been wage laborers, and 15.7 percent had had some other status. In Florence County, among the workers with a sharecropper status in 1937, 67.1 percent had been sharecroppers in 1930, 10.1 percent had been wage laborers, 6.3 percent had been renters, and 16.5 percent had had some other status. The status of wage earners showed even greater instability. Among the wage laborers of Laurens County in 1937, 38.6 percent had been wage laborers in 1930, 22.6 percent had been sharecroppers, 19.4 percent had had some other status, and 19.4 percent were not at work in 1930. Among the wage laborers in Florence County in 1937, 61.4 percent had been wage laborers in 1930, 6.8 percent had been sharecroppers, 4.5 percent had had some other status, and 27.3 percent were not working in 1930.

A study of tenure experience in four counties of Arkansas indicates extreme instability of tenure and of economic status on the part of both wage earners and sharecroppers. In this area the net change was decidedly in the direction of wage labor. The number of share renters per 10,000 acres of cropland fell from 143.1 in 1932 to 104.5 in 1938, and the corresponding number of sharecroppers fell from 798.1 to 581.2. In contrast, the number of wage families per 10,000 acres of cropland rose from 247.2 in 1932 to 293.6 in 1938, and the corresponding number of wage hands rose from 27.5 to 39.5.

It is particularly significant that the total amount of labor per 10,000 acres of cropland was 16 percent lower in 1938 than in 1932. This fact reflects a major change in methods of farming in the direction of mechanization, which in turn has had a tendency not only to reduce the total amount of labor but also to bring about a shift from sharecroppers to hired laborers.

Instability of Residence

The instability of tenure and economic status is illustrated by the frequent changes in location on the part of both sharecropper and wage-earner families. In Laurens and Florence Counties, S. C., sharecroppers and wage laborers lived, on an average, on the same farm between 3 and 4 years. Some families moved back to the same farms two or more times during their lives. In the three bottom-land counties of Arkansas, 4 out of 10 sharecropper and wage-earner families were residing on their 1937 farms for the first year and 3 out of 5 had lived there for 2 years or less. Three out of four had lived on the farms of their 1937 residences 4 years or less. The average length of residence on the same farm in 1937 was less than 2 years.

Economic Status

The economic status of both sharecroppers and wage workers, as indicated by special studies in South Carolina and Arkansas, appeared to undergo some improvement between 1933 and 1937, but the income figures for 1937 reveal remarkably small resources for the support of a family. Sharecroppers in Laurens County, S. C., owed the landlord, at the "settlement" date, an average of \$214 as advance payments or other debts and received in cash an average of

\$71—a total of \$285. In Florence County, S. C., the advances made by the landlord and owed by the sharecropper plus the cash settlement paid to the sharecropper averaged \$329. The average income of wage-earner families in Laurens County was \$250, and in Florence County, \$258. In three bottom-land counties of Arkansas, the cash settlement and advances combined averaged, for sharecropper families, \$229. There was usually a significant amount of additional income in the form of perquisites, particularly home-grown foods, not counted in the advances made to sharecroppers or in the wages paid to hired workers.

Studies of the comparative advantage to farm operators, under specified conditions, of using sharecroppers and wage laborers were made in several cotton-producing areas. It was estimated that in Laurens County, in the Piedmont area of South Carolina, the operators' cash returns over variable expenses, excluding farm-benefit payments, were \$9.78 per acre under the sharecropper system, and \$10.86 under the wage-labor system, and including farm benefits with rates and divisions between owners and sharecroppers as in 1939, \$14.25 per acre under the sharecropper system, and \$19.80 under wage labor. Similar figures for Mississippi County, Ark., indicate operators' cash returns under variable expenses, excluding farm-benefit payments, as \$20.87 under the sharecropper system, and \$23.18 under wage labor, and including farm-benefit payments, \$27.48 under the sharecropper system, and \$36.41 under wage labor. Estimates for Lamb County, Tex., in the High Plains area, indicate that when farm-benefit payments are excluded, the operators' cash returns over variable expenses were \$9.46 under the sharecropper system and \$14.26 under wage labor, and the corresponding figures when farm-benefit payments are included are \$13.08 and \$21.50.



Wage Workers and Sharecroppers on Mississippi Plantations¹

Recent developments in many sections of the country indicate an increased use on farms of hired workers in place of tenants. In the plantation regions of the South, sharecroppers have formed a distinctive group of farm workers, but in addition to sharecroppers in these areas there have been considerable numbers of hired farm workers. Evidence of a trend toward hired labor in one of the principal areas of sharecropping is presented in a recent study by the United States Department of Agriculture in cooperation with the Mississippi Agricultural Experiment Station.²

In this region, the Yazoo-Mississippi Delta area, large cotton plantations prevail, ranging in size from 400 to several thousand acres. These plantations are operated largely by tenants. The area comprises about 4,200,000 acres in northwestern Mississippi and includes all of 10 counties and parts of 9 others. In 1934 about 69 percent

¹ From the Monthly Labor Review for November 1939.

² U. S. Department of Agriculture. Technical Bulletin No. 682: Plantation Organization and Operation in the Yazoo-Mississippi Delta Area, by E. L. Langsford and B. H. Thibodeaux. Washington, May 1939.

of the farm land in the 10 counties wholly within the area was in plantations of 400 acres or more, and 62 percent was operated by tenants, only 13 percent of whom were white. Fluctuations in cotton prices, the advantages of mechanization, and other influences during the past decade led planters to make readjustments in plantation organization and operation for maintenance of earnings. These adjustments included an increased use of wage labor. Because of the fact that all share-rental leases on plantations are verbal agreements that may be terminated at the end of the year either by the plantation operator or by the tenant, shifts from one employment status to another are easily made.

During recent years, there has been indication that a plentiful supply of labor and the increased use of large-scale equipment in production have been associated with a rapid increase in the use of wage labor as compared with share labor. The use of large-scale machinery in cotton production, associated with the availability of a plentiful and relatively low-priced labor supply for hand operations like hoeing and picking, has proved much more remunerative to plantation operators than production on a share basis. Together with this advantage in large-scale production methods are the attendant reduction in the number of laborers used and hence the decreased risks in furnishing credit advances to tenants.

A study of 12 plantations on which detailed records were kept indicates that the proportion of cropland operated with wage labor rose from 30 percent in 1933 to 47 percent in 1936. The proportion operated by sharecroppers fell from 52 percent in 1933 to 43 percent in 1936, and the proportion operated with share tenants³ fell from 18 percent in 1933 to 10 percent in 1936. A more intensive survey of plantations in one county indicates an increase of cotton acreage operated by wage labor from 27 percent in 1934 to 42 percent in 1936; a decline of the acreage operated by sharecroppers from 58 to 48 percent, and a reduction of the acreage operated by share tenants from 12 to 9 percent.

Census data for the 10 counties wholly within the area indicate a similar trend between 1930 and 1935. The acreage in cropland harvested per farm operator by full owners, part owners, and managers increased from about 55 acres in 1930 to 81 acres in 1935. The number of full owners, part owners, and managers increased from 4,084 in 1930 to 5,150 in 1935, and in contrast the number of sharecroppers and other tenants decreased from 75,988 in 1930 to 63,113 in 1935. The total farm land increased from 2,284,000 acres in 1930 to 2,459,000 acres in 1935, and the cropland harvested underwent a slight reduction from 1,684,000 acres in 1930 to 1,658,000 acres in 1935.

The relative costs of the different types of labor to plantation operators, and the comparative incomes of sharecroppers, share tenants, and wage workers, afford explanations of these changes.

In 1932, sharecroppers earned an average net return of 45 cents per workday. In effect, this was the average rate, excluding perquisites furnished sharecroppers, that the plantation operator paid for a day of sharecropper labor. If wage labor had been used, the labor cost to the operator would have amounted

³ In the study here reviewed a sharecropper is defined as a tenant who furnishes all of the labor, bears one-half of the expenses for fertilizer, poison, and ginning, and receives one-half of the crop. The sharecropper is sometimes locally referred to as a "half hand" or "half tenant." A share tenant is defined as a tenant who furnishes all of the labor, power and equipment, and seed, and bears three-fourths of the expenses for fertilizer, poison, and ginning, in return for three-fourths of the crop. A local term for share tenant is "fourth tenant."

to 60 cents per day. Thus wage-labor rates were relatively high as compared with crop incomes in 1932, and the plantation operator benefited more that year from using sharecroppers than wage laborers. This income-wage relationship was reversed, however, during the next 4 years. In each of these years, the average net earnings per day of sharecropper labor were substantially above the average rate per day for wage labor; hence, on the average, the plantation operator benefited more from using wage labor than sharecropper labor during these 4 years.

It is probable that the policy of substituting wage labor for sharecropper and tenant labor will be continued and extended, for wage labor can be adapted most readily and economically to mechanization now in progress. The extent and rapidity of the change will depend on the relative levels of crop incomes, labor costs, and power costs. These in turn will be vitally affected by the degree of success attained in mechanizing the hoeing and picking of cotton. Another factor of unforeseeable importance is the bargaining power of the workers regarding wages and the tenure status they prefer.

Housing and Building Operations

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 Edition.

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Sources and Character of Information on Construction and Housing

Monthly reports on the value of building permits are the chief source of information on the volume of construction in the United States. The Bureau of Labor Statistics calculates the value of building permits for all types of building and separately for new residential construction, nonresidential construction, and additions, alterations, and repairs. Reports are also published showing the value of construction financed from Federal and State funds.

Data on the value of building permits are available beginning with the year 1920. Coverage, which was at first limited to the larger cities, has gradually been extended to include places having a population of 1,000 or more. In 1940, the monthly statistics of building permits included returns for each of the cities with populations of 50,000 or more; for cities from 1,000 to 50,000 population the number reporting increased directly with the size of city.

Reports are collected by the Bureau directly from local building officials except in the States of Illinois, Massachusetts, New Jersey, New York, North Carolina, and Pennsylvania, where State departments of labor collect and forward the data to the Bureau. In addition, the Bureau receives notifications of the value of construction contracts awarded by Federal and State Governments.

The permit-valuation figures represent estimates of construction costs made by prospective builders when applying for permits to build, in the case of privately financed construction, and the value of contracts awarded, in the case of construction financed with Federal or State funds. No land costs are included.

Only building construction within the corporate limits of the reporting cities is included. Thus, the figures do not give an overall picture of the total volume of construction for which permits are issued in the country at any one time. Moreover, the actual cost of construction is almost always greater than the permit valuation. Nevertheless, by comparing the dollar value of permits issued, a rough approximation of building trends over short periods is obtained, as the number of cities reporting varies relatively little from month to month. For the purpose of making long-term comparisons index numbers have been computed.

Other contributions of the Bureau of Labor Statistics to the available information on the status of construction are the annual reports on union wages and hours in the building trades (see vol. II, p. 46); the quarterly estimates of residential building; and the weekly and monthly indexes of wholesale prices of building materials.

Special studies of housing and construction are made periodically by the Bureau of Labor Statistics and the results of the more important of these, published during the past few years, are summarized in this section. This is also true of reports made from time to time by other Governmental agencies on various phases of construction such as those contained in the Decennial Census, and those made by the FHA, the HLBB, and the USHA.

The status of construction is vital to labor owing to the large body of workers engaged directly and indirectly in erecting buildings and because all workers are concerned with obtaining suitable dwellings at reasonable costs. From 1935 to 1940 residential and nonresidential construction expanded. A large factor in this growth was the public-works program, started in 1933 under the terms of the National Industrial Recovery Act, extended by other laws, and not reaching its full effectiveness until some years later, because of the lapse in time between planning and executing construction work. Although an increasing volume of building was fostered originally by the Federal Government as a means of furnishing as much work as possible to the large body of unemployed, there has also been a revival in private construction activity, particularly in residential building. The latest development is the combined public and private effort to fulfill defense requirements for both plant and residential units.



BUILDING CONSTRUCTION

Trends in Building Construction, 1929 to 1941

Index numbers of building-permit valuation in all reporting cities are shown in table 1 for the years 1929 to 1940 and by months for 1941. The year 1929 is used as the base or 100 and the figures through 1940 are averages of the monthly indexes. The large volume of contracts awarded for defense construction beginning in the second half of 1940 pushed the index for October 1940 to 82.0, the highest level recorded since 1929. Monthly indexes through September 1941 were well above those for the corresponding months of 1940. The lowest point in construction activity was in 1933 and 1934, for which the respective indexes amount to 12.2 and 12.5 percent of the 1929 level.

Residential construction, which reached the lowest level of the three branches of building during the early thirties—5.3 percent of the 1929 average in 1934—showed the most pronounced recovery.

The index numbers of building construction in table 1 are based on the changes in the volume of building construction in cities which have reported in two successive months. For example, the monthly indexes of permit valuations are computed by multiplying the index for the preceding month by the ratio of permit valuations in the current month to those in the preceding month. In this way, comparable historical series are obtained which incorporate the maximum amount of information from an increasing number of reporting cities.

TABLE 1.—*Index numbers of permit valuation of building construction, 1929-41*

[Based on permits issued. Monthly average, 1929=100]

Year ¹ and month	Total building construction	New residential buildings	New non-residential buildings	Additions, alterations, and repairs
1929.....	100.0	100.0	100.0	100.0
1930.....	57.2	42.7	73.0	65.1
1931.....	40.4	30.5	49.8	48.7
1932.....	14.8	7.5	20.3	24.0
1933.....	12.2	6.3	14.1	24.2
1934.....	12.5	5.3	14.0	31.2
1935.....	21.4	13.1	21.8	42.2
1936.....	34.1	26.0	31.7	53.3
1937.....	37.7	27.9	35.3	62.1
1938.....	38.2	32.2	33.3	52.4
1939.....	45.2	42.2	34.5	57.1
1940.....	52.4	47.1	44.4	56.9
<i>1941</i>				
January.....	45.8	38.4	43.6	46.7
February.....	43.8	40.0	37.7	46.7
March.....	50.2	50.9	36.0	58.1
April.....	68.1	68.2	52.7	67.1
May.....	62.9	62.7	46.2	72.3
June.....	69.1	70.1	50.8	75.0
July.....	63.1	66.9	42.5	70.4
August.....	57.1	66.0	31.3	67.2
September.....	55.1	62.2	32.6	60.1
October.....	48.3	51.0	28.1	69.9
November.....	36.7	41.6	20.6	44.7
December.....	36.9	32.3	29.1	45.5

¹ Figures for 1929 to 1940, are averages of monthly index numbers.

Type of Buildings Constructed, 1939 and 1940

All building construction undertaken in 2,397 cities in the population class of 1,000 and over which reported to the Bureau in both 1939 and 1940, is classified in table 2 according to the type of building to be erected. The quantity unit for all types of buildings in this table is the number of buildings. An alternative unit for new house-keeping structures is the number of dwelling units provided in them. This distinction is most significant for multifamily dwellings. If permits were issued for a preponderance of small apartment houses in any year, there could be a substantial increase in the number of buildings of the multifamily type without a corresponding increase in permit valuation.

TABLE 2.—Permit valuation and number of various types of buildings for which permits were issued in 2,397 identical cities, 1939 and 1940

Type of building	Permit valuation			Buildings		
	Amount		Percent of change	Number		Percent of change
	1940	1939		1940	1939	
All types of buildings.....	\$2, 710, 393, 208	\$2, 149, 959, 230	+26. 1	847, 327	784, 030	+8. 1
New buildings.....	2, 362, 362, 390	1, 796, 152, 137	+31. 5	426, 111	371, 421	+14. 7
Residential buildings.....	1, 311, 826, 836	1, 175, 341, 275	+11. 6	283, 197	235, 476	+20. 3
1-family dwellings.....	1, 003, 559, 290	835, 862, 761	+20. 1	260, 654	217, 156	+20. 0
2-family dwellings.....	71, 878, 314	56, 866, 278	+26. 4	14, 119	10, 817	+30. 5
1- and 2-family dwellings with stores combined.....	4, 756, 387	4, 161, 645	+14. 3	909	922	-1. 4
Multifamily dwellings.....	208, 098, 301	256, 647, 534	-18. 9	6, 899	6, 012	+14. 8
Multifamily dwellings with stores combined.....	3, 315, 570	4, 779, 608	-30. 6	119	174	-31. 6
Hotels.....	8, 807, 440	8, 259, 312	+6. 6	151	114	+32. 5
Lodging houses.....	503, 052	289, 840	+73. 6	83	56	+48. 2
All other.....	10, 908, 482	8, 474, 297	+28. 7	263	225	+16. 9
Nonresidential buildings.....	1, 050, 535, 554	620, 810, 862	+69. 2	142, 914	135, 945	+5. 1
Amusement buildings.....	29, 913, 657	25, 446, 389	+17. 6	1, 732	1, 644	+5. 4
Churches.....	18, 561, 805	16, 303, 797	+13. 8	1, 161	1, 014	+14. 5
Factories and workshops.....	373, 811, 273	47, 773, 560	+682. 5	3, 531	2, 740	+28. 9
Public garages.....	9, 196, 302	8, 535, 329	+7. 7	1, 207	1, 131	+6. 7
Private garages.....	23, 743, 763	22, 026, 575	+7. 8	92, 733	87, 805	+5. 6
Service stations.....	20, 651, 003	18, 403, 828	+12. 2	5, 326	4, 858	+9. 6
Institutions.....	53, 907, 380	44, 829, 855	+20. 2	293	306	-4. 2
Office buildings.....	35, 549, 911	20, 491, 339	+73. 5	715	513	+39. 4
Public buildings.....	229, 319, 934	105, 998, 068	+116. 3	873	573	+52. 4
Public works and utilities.....	69, 373, 438	57, 493, 576	+20. 7	964	787	+22. 5
Schools and libraries.....	55, 641, 916	145, 465, 589	-61. 7	566	942	-39. 9
Sheds.....	5, 163, 063	5, 281, 147	-2. 2	15, 460	17, 315	-10. 7
Stables and barns.....	825, 751	728, 098	+13. 4	508	681	-17. 0
Stores and warehouses.....	121, 200, 969	99, 597, 844	+21. 7	13, 965	12, 406	+12. 6
All other.....	3, 675, 389	2, 435, 868	+50. 9	3, 820	3, 227	+18. 4
Additions, alterations, and repairs.....	348, 030, 818	353, 807, 093	-1. 6	421, 216	412, 609	+2. 1
On residential buildings:						
Housekeeping dwellings.....	141, 030, 229	132, 991, 100	+6. 0	316, 811	304, 713	+4. 0
Nonhousekeeping dwellings.....	4, 733, 301	4, 551, 381	+4. 0	1, 979	2, 258	-12. 4
On nonresidential buildings.....	202, 267, 288	216, 264, 612	-6. 5	102, 426	105, 638	-3. 0

Residential Building in Nonfarm Areas, 1920 to 1941¹

Estimates of the number of dwellings upon which construction was started in nonfarm areas have been compiled for each year beginning with 1920. This has been a period of great fluctuation in the construction of residences. After a boom which reached its maximum in 1925, when 937,000 units were erected, new residential construction dropped to a total of 54,000 units in 1933 but has since been expanded markedly. Indications are that building activity in 1941 will exceed the level of any recent year. With 540,000 new dwelling units provided for nonfarm families, residential construction during 1940 continued the upward climb of 5 years. The 1940 total is more than twice the annual average of 220,000 units for the preceding decade, but falls short of the 703,000 average for the decade of the 1920's. The last year of greater activity was 1928, when new family accommodations totaled 753,000 units. From that point it dropped to 509,000 in 1929 and then fell to a depression low of 54,000 units in 1933.

¹ See Monthly Labor Review for April 1941 for fuller information.

The "nonfarm area" of the United States can, in general, be defined as consisting of all urban and rural nonfarm places. The urban group includes all incorporated places with a population of 2,500 or more and also a small group of towns specially classified as urban. Incorporated places of less than 2,500 population, as well as unincorporated areas excluding farms, are designated as "rural nonfarm." The classifications used here and also the groupings by size of city are based upon the 1930 census.

The recovery in residential construction is even more marked when 1-family dwellings alone are considered. Of the units provided in 1940, 425,000 were of the 1-family type, a number which compares favorably with the 436,000 1-family units built in 1928. Trends in 2-family and multifamily units do not follow closely movements in volume of new 1-family houses. Thus although recovery in construction of 1-family dwellings has proceeded so well, 1940 totals for 2-family and apartment units are still less than half the comparable 1928 figures. The great fluctuations from year to year in number of new dwelling units provided in nonfarm areas since 1920 are shown in table 1.

TABLE 1.—Number of new dwelling units in nonfarm areas, 1920 to 1941 ¹

Year	Total nonfarm	Area		Type of dwelling		
		Urban	Rural nonfarm	1-family	2-family ²	Multifamily ³
1920.....	247,000	196,000	51,000	202,000	24,000	21,000
1921.....	449,000	359,000	90,000	316,000	70,000	63,000
1922.....	716,000	574,000	142,000	437,000	146,000	133,000
1923.....	871,000	698,000	173,000	513,000	175,000	183,000
1924.....	893,000	716,000	177,000	534,000	173,000	186,000
1925.....	937,000	752,000	185,000	572,000	157,000	208,000
1926.....	849,000	681,000	168,000	491,000	117,000	241,000
1927.....	810,000	643,000	167,000	454,000	99,000	257,000
1928.....	753,000	594,000	159,000	436,000	78,000	239,000
1929.....	509,000	400,000	109,000	316,000	51,000	142,000
1930.....	286,000	224,000	62,000	185,000	28,000	73,000
1931.....	212,000	164,000	48,000	147,000	21,000	44,000
1932.....	74,000	56,000	18,000	60,000	7,000	7,000
1933.....	54,000	40,000	14,000	39,000	4,000	11,000
1934.....	55,000	41,000	14,000	42,000	3,000	10,000
1935.....	144,000	106,000	38,000	111,000	7,000	26,000
1936.....	276,000	199,000	77,000	203,000	13,000	60,000
1937.....	286,000	205,000	81,000	219,000	15,000	52,000
1938.....	347,000	246,000	101,000	261,000	17,000	69,000
1939.....	465,000	342,000	123,000	351,000	28,000	86,000
1940.....	540,000	386,000	154,000	425,000	37,000	78,000
1941 (first half) ⁴	319,000	228,000	91,000	262,000	18,000	39,000

¹ Data for 1920-35 are from National Bureau of Economic Research, data for 1936-41 from Bureau of Labor Statistics.

² Includes 1- and 2-family dwellings with stores.

³ Includes multifamily dwellings with stores.

⁴ Urban and rural nonfarm classifications based on 1940 census.

Although 1- and 2-family dwellings made great gains during 1940 as compared with 1939, units in new apartments in the nonfarm area showed a decrease of nearly 8,000 units, or 9 percent. The 1-family type, with 73,000 more new units, increased 21 percent, and the 2-family type, 33 percent. For privately financed units alone, the 1- and 2-family types were 19 and 38 percent greater, respectively; the multifamily type, 14 percent smaller.

Except for cities of over 500,000 population, all urban population groups, and the rural nonfarm group as well, shared in the increase from 1939 to 1940. Of the urban groups, the most important gains were made in cities of population between 100,000 and 500,000 and between 10,000 and 25,000. In cities of 500,000 and over, the upward trends in 1- and 2-family units were overweighted by the 11,000 drop in apartment units. A contributing cause of this drop was the fact that applications filed by private persons for permits in New York City during 1940 provided for 19,835 apartment units, 9,478 fewer than in 1939. In table 2 are presented the estimates for 1939 and 1940 by population group and type of dwelling.

TABLE 2.—Number of new dwelling units in nonfarm areas, 1939 and 1940, by population group and type of dwelling

Population group	All types		1-family		2-family ¹		Multifamily ²	
	1940	1939	1940	1939	1940	1939	1940	1939
Total nonfarm.....	540,000	465,000	425,103	351,641	36,865	27,655	78,032	85,704
Percent of change, 1940 as compared with 1939.....	+16.1	-----	+20.9	-----	+33.3	-----	-9.0	-----
Total urban.....	385,878	342,107	284,564	237,268	30,925	23,737	70,389	81,102
500,000 population and over.....	100,016	104,676	51,231	47,900	7,639	4,509	41,146	52,267
100,000-500,000 population.....	85,931	72,239	61,338	49,690	9,863	8,614	14,730	13,935
50,000-100,000 population.....	31,088	28,067	24,939	21,849	3,141	3,211	3,008	3,007
25,000-50,000 population.....	38,442	31,221	32,123	25,440	3,744	2,572	2,575	3,209
10,000-25,000 population.....	60,329	48,252	53,015	41,363	3,644	2,577	3,670	4,312
5,000-10,000 population.....	39,084	32,018	33,409	27,600	1,691	1,216	3,984	3,202
2,500-5,000 population.....	30,988	25,634	28,509	23,426	1,203	1,038	1,276	1,170
Rural nonfarm.....	154,122	122,893	140,539	114,373	5,940	3,918	7,643	4,602

¹ Includes 1- and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

Source of Funds

In 1939 and 1940 residential developments financed with public funds were an important part of the new housing supply. Projects of this kind which got under way in 1940 were designed to accommodate 73,533 families, an increase of 30 percent over the 56,542 family capacity of 1939 projects. These totals represent 14 percent of all new units in 1940 and 12 percent in 1939.

Most important in the public housing field has been the role of the United States Housing Authority. The USHA itself builds no homes, but lends money to local housing authorities and aids with subsidies. The primary purpose of the program has been to supply low-rent housing for families previously able to afford only sub-standard homes. However, as a measure of national defense, Congress late in June 1940 authorized the USHA to use its regular funds for provision of homes in areas where defense needs were urgent.² For the duration of the emergency subsidies and low-income requirements for occupants are suspended on such projects. With a return to normal conditions they will revert to regular USHA status. During 1939 USHA projects for 56,302 low-income families were started in nonfarm areas of the United States. Projects in 1940, including

² Public, 76th Cong. No. 671.

5,110 dwelling units allocated for defense purposes, had a potential capacity of 51,345 families, a decrease of 9 percent from the 1939 number.

The distribution of new dwelling units by source of funds is shown in table 3 for each population group.

TABLE 3.—Number of new dwelling units in nonfarm areas, 1939 and 1940, by source of funds and population group

Population group	Total		Private funds		Public funds	
	1940	1939	1940	1939	1940	1939
Total nonfarm.....	540,000	465,000	466,467	408,458	73,533	56,542
Percent of change, 1940 as compared with 1939.....	+16.1	-----	+14.2	-----	+30.1	-----
Total urban.....	385,878	342,107	321,528	286,654	64,350	55,453
500,000 population and over.....	100,016	104,676	84,476	87,278	15,540	17,398
100,000 to 500,000 population.....	85,931	72,239	57,875	47,650	28,056	24,589
50,000 to 100,000 population.....	31,088	28,067	25,390	22,035	5,698	6,032
25,000 to 50,000 population.....	38,442	31,221	31,102	26,332	7,340	4,889
10,000 to 25,000 population.....	60,329	48,252	55,136	45,857	5,193	2,395
5,000 to 10,000 population.....	39,084	32,018	38,042	31,868	1,042	150
2,500 to 5,000 population.....	30,988	25,634	29,507	25,634	1,481	0
Rural nonfarm.....	154,122	122,893	144,939	121,804	9,183	1,089

The permit valuation of the 540,000 new nonfarm dwelling units provided in 1940 is estimated at approximately \$1,847,000,000. Of this total \$1,622,000,000 was for privately financed units and \$225,000,000 for publicly financed. During 1939, the estimated permit valuation corresponding to the 465,000 new units was \$1,591,000,000, including \$1,406,000,000 private funds and \$185,000,000 public.



Permit Valuation Per New Dwelling Unit, 1921 to 1940

Variations in the average permit valuation per dwelling unit in 257 identical cities are available from 1921 through 1940. The accompanying table does not show the change in the cost (as indicated by permit valuations) of erecting identical dwelling units in these cities, but it does show the changes in average permit valuations of such units as were erected.

The average value of building permits for all types of dwellings was materially lower in 1940 than in the period 1921 to 1931, inclusive. In 7 of the 9 years 1932-40, the index numbers based on the average of 1935-39 have been less than 100, the index for 1933 being 91.5, and for 1940, 93.2. One-family, two-family, and multifamily dwellings all show the same tendency, that is, toward a lowering of the permit valuation in recent years. The 1940 index numbers for 1- and 2-family units (92.6 and 92.8, respectively) were almost identical, but for multifamily dwellings the reduction was greater, the index for 1940 being 89.6.

Although there has been a reduction in the permit valuation of dwellings in recent years this does not necessarily mean a lower standard of housing. Other factors are involved, including erection of smaller units and more economical methods of building.

Permit valuation per new dwelling unit in 257 identical cities, 1921 to 1940

[Revised. This table does not show change in cost of erecting identical buildings, but does show change in estimated costs of such buildings as were erected. Does not include land costs]

Year	Permit valuation per new dwelling unit				Index numbers of permit valuation per new dwelling unit (average, 1935-1939=100)			
	All types of dwellings	1-family dwellings	2-family dwellings ¹	Multi-family dwellings ²	All types of dwellings	1-family dwellings	2-family dwellings ¹	Multi-family dwellings ²
1921	\$3,947	\$3,972	\$3,762	\$4,019	103.3	94.5	126.7	117.2
1922	4,016	4,259	3,568	3,950	105.1	101.4	120.1	115.2
1923	4,127	4,189	4,185	4,004	108.0	99.7	140.9	116.8
1924	4,361	4,342	4,350	4,395	114.1	103.3	146.5	128.2
1925	4,445	4,593	4,422	4,271	116.3	109.3	148.9	124.6
1926	4,422	4,763	4,465	4,103	115.7	113.4	150.3	119.7
1927	4,449	4,830	4,368	4,170	116.4	114.9	147.1	121.6
1928	4,407	4,937	4,064	4,129	115.3	117.5	136.8	120.4
1929	4,565	4,919	4,011	4,400	119.5	117.1	135.1	128.4
1930	4,385	4,994	3,924	3,857	114.8	118.8	132.1	112.5
1931	4,226	4,836	3,607	3,644	110.6	115.1	121.4	106.3
1932	3,705	3,943	3,250	3,010	97.0	93.8	109.4	87.8
1933	3,495	3,845	3,112	3,040	91.5	91.5	104.8	88.7
1934	3,572	4,071	3,338	2,716	93.5	96.9	112.4	79.2
1935	3,779	4,228	2,953	3,245	98.9	100.6	99.4	94.7
1936	4,002	4,355	3,053	3,679	104.7	103.6	103.0	107.3
1937	4,009	4,352	3,110	3,641	104.9	103.6	104.7	106.2
1938	3,644	4,105	2,862	3,217	95.4	97.7	96.4	93.8
1939	3,673	3,970	2,868	3,350	96.1	94.5	96.6	98.0
1940	3,562	3,891	2,757	3,073	93.2	92.6	92.8	89.6

¹ Includes 1- and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

Construction Projects Financed From Federal Funds, 1939 and 1940

The value of all construction work, including public roads and ship-building, undertaken by the Federal Government in 1939 and 1940 is shown in the following table, by type of project. Governmental agencies awarded contracts for part of this construction and the remainder was to be done with force-account employees, i. e., employees engaged for a specific construction, repair, or maintenance job which a governmental agency does itself.

*Value of contracts awarded and force-account work started on construction projects financed from Federal funds, 1939 and 1940*¹

Type of project	Total		Regular Federal appropriations	
	1940	1939 ²	1940	1939 ²
All types of projects.....	³ \$6,296,527,048	⁴ \$2,282,137,504	\$6,016,267,754	\$1,296,454,079
Airports ⁵	113,313,230	4,752,921	111,913,406	873,891
Building:				
Residential.....	³ 246,940,818	⁴ 231,070,689	73,396,873	1,038,119
Nonresidential.....	1,065,864,605	438,150,755	1,031,538,803	124,460,721
Electrification.....	97,923,095	130,044,708	88,993,995	100,616,066
Forestry.....	4,156,684	13,640,920	0	11,950
Heavy engineering.....	13,917,855	94,296,737	2,588,354	22,093
Hydroelectric power plants.....	7,060,274	22,804,087	0	0
Public roads ⁷	339,132,054	266,573,425	336,833,955	230,246,090
Reclamation.....	68,994,015	115,612,233	60,084,687	85,096,726
River, harbor, and flood control.....	140,907,493	109,811,338	140,701,269	105,039,781
Ship construction and repair:				
Naval vessels.....	4,050,710,394	385,307,643	4,050,710,394	385,207,643
Other.....	86,774,981	209,955,459	86,774,981	209,875,448
Streets and roads ⁸	25,778,901	89,128,444	11,804,612	7,757,730
Water and sewerage systems.....	16,219,321	118,131,218	4,401,681	1,560,978
Miscellaneous.....	18,833,328	52,856,927	16,524,744	44,646,843

See footnotes at end of table.

Value of contracts awarded and force-account work started on construction projects financed from Federal funds, 1939 and 1940¹—Continued

Type of project	Federal agency Work Projects Administration funds		Public Works Administration funds	
	1940	1939 ²	1940	1939 ²
All types of projects.....	\$38,499,869	\$88,464,858	\$75,054,272	\$716,127,404
Airports ⁵	944,731	2,305,000	455,093	1,574,030
Building:				
Residential.....	2,061,306	231,357	4,777,486	48,710,050
Nonresidential.....	18,836,151	35,425,263	15,489,651	278,264,771
Electrification.....	2,500	32,076	8,926,600	29,396,566
Forestry.....	4,156,684	13,628,970	0	0
Heavy engineering.....	(⁶)	(⁶)	11,329,501	94,274,644
Hydroelectric power plants.....	1,722,750	620,365	5,337,524	22,183,722
Public roads ⁷	1,334,444	2,484,820	963,655	33,842,515
Reclamation.....	6,244,180	24,219,857	2,665,148	6,295,650
River, harbor, and flood control.....	122,628	1,698,504	53,596	3,073,053
Ship construction and repair:				
Naval vessels.....	(⁶)	(⁶)	0	100,000
Other.....	0	0	0	80,011
Streets and roads ⁸	563,934	2,263,267	13,410,355	79,107,447
Water and sewerage systems.....	325,997	589,918	11,491,643	115,980,322
Miscellaneous.....	2,184,564	4,965,461	124,020	3,244,623

¹ Preliminary subject to revision.

² Revised.

³ Includes \$166,705,153 in contracts awarded for housing projects under the United States Housing Authority.

⁴ Revised. Includes \$181,091,163 in contracts awarded for housing projects under the United States Housing Authority.

⁵ Exclusive of hangars and other buildings which are included under building construction.

⁶ Grade-crossing elimination and roads.

⁷ Other than those for which contracts were awarded by the Public Roads Administration.

⁸ No appropriations made for this type of project.

Of the \$6,297,000,000 awarded in Federal contracts during 1940, \$4,051,000,000 was for naval vessels and \$1,066,000,000 for nonresidential building. In the previous year awards for these two types of construction were also the highest but were relatively small, as the defense program had not been started. Nonresidential building represented \$438,000,000 and naval construction \$385,000,000 out of a total value of contracts amounting to approximately \$2,282,000,000 in 1939. While awards from regular Federal appropriations increased from \$1,296,000,000 in 1939 to \$6,016,000,000 in 1940, those from funds of the Work Projects Administration declined from \$88,500,000 to \$38,500,000 and the awards under the Public Works Administration, whose work was nearing completion, dropped from \$716,000,000 to \$75,000,000.



Prices of Building Materials, Wages, and Rents, 1921 to 1940

Index numbers of building construction in 257 identical cities from which the Bureau has obtained building permit data since 1921 are compared with movements in the indexes of wholesale prices of building materials, union wage rates per hour in the building trades, and residential rents in the following table.

Permit valuations for building operations in these cities increased substantially in both 1939 and 1940. The index of 159.0 for 1940 was higher than in any year since 1929. The index of wholesale prices for building materials rose to 105.8 in 1940 which was close

to the level of prices in 1929 when the index was 106.4. Union wage rates with an index of 110.8 in 1940 were the highest recorded, having risen from 99.5 in 1937 to 108.4 in 1938 and 109.1 in 1939. The previous peak was 106.1 in 1931 from which there was a drop to 88.2 in 1933. The Bureau's index of residential rents has moved upward steadily since 1935 when it was 94.2. Rent increases were largest in these 257 cities during 1937 and 1938. For 1940 the index amounts to 104.6, which is well below the level of the early thirties.

Index numbers of permit valuations, material prices, union wage rates, and rents, 1921 to 1940

[Revised. Index numbers based on 5-year average, 1935-39=100]

Year	Permit valuations in 257 identical cities	Wholesale prices of building materials	Union wage rates per hour in building trades	Residential rents
1921.....	166.0	108.7	77.8	138.6
1922.....	250.0	108.6	72.9	142.7
1923.....	307.0	121.3	80.7	146.4
1924.....	316.9	114.1	87.1	151.6
1925.....	363.8	113.5	90.4	152.2
1926.....	345.7	111.6	96.3	150.7
1927.....	314.2	105.7	99.7	148.3
1928.....	298.5	105.0	100.3	144.8
1929.....	264.9	106.4	101.6	141.4
1930.....	153.3	100.3	105.8	137.5
1931.....	111.8	88.4	106.1	130.3
1932.....	43.5	79.7	90.7	116.9
1933.....	34.6	86.0	88.2	100.7
1934.....	37.3	96.2	88.8	94.4
1935.....	62.4	95.2	89.8	94.2
1936.....	97.0	96.7	93.1	96.4
1937.....	107.2	106.2	99.5	100.9
1938.....	107.1	100.8	108.4	104.1
1939.....	126.3	101.0	109.1	104.3
1940.....	169.0	105.8	110.8	104.6



Permit Fees for Residential Construction in the United States, 1940¹

Records of building permits are one of the most important indicators of the volume and nature of residential construction, but there is little general knowledge of the nature of the permits required by the various cities throughout the country. A survey was made by the Bureau of Labor Statistics to determine the basis upon which fee charges are made for residential construction.²

Cities were classified, according to their basis for charging fees, into groups as follows: (1) No fees charged; (2) flat fee; (3) fees based upon valuation of the construction; (4) fees based upon cubic contents; and (5) fees based upon floor space. A further group was established for those cities which did not fall into any of the above classifications.

Of 854 cities having 10,000 or more population, 155 or 18 percent waive the collection of a building-permit fee. A flat fee regardless

¹ See Monthly Labor Review for December 1940, and for a more detailed report on this subject, Serial No. R. 1188.

² Many cities make charges in addition to permit fees in connection with residential building. Only permit fees are discussed in this article.

of the cost or size of the structure is charged in over 12 percent of the cities. However, the majority of the cities (58 percent) base their permit fees on the value of construction. Cubic content serves as the basis for fixing fees in 5 percent and floor space in 3 percent of the cities. About 4 percent of the reporting cities were not readily classifiable into these general categories.

Regionally, there were wide variations in the types of fees required. In New England, 48 cities (almost 40 percent of the 122 cities reporting from that area) were found to require no payment of fees, and all but 2 of the remainder had either a flat fee or a fee based on valuation. By contrast, 62 of the 64 Pacific Coast cities reported fees based on valuation and only 1 city issued free permits. Cubic content and floor space of buildings were most frequently employed as a basis for calculating fees in the cities of the East North Central States (Illinois, Indiana, Ohio, and Wisconsin). In Wisconsin, more than half the cities having a population of 10,000 or more provided for fees based on the cubic contents of the proposed structures.

Study of the fees levied indicates clearly that these charges are not a revenue-raising device. In many cases the permit charge in connection with residential building is barely sufficient to pay for the manifold services rendered for the protection of the builder. Before an application for a building permit is approved, the office of the building inspector usually examines all plans and specifications to determine that the building will be safe, sanitary, and built to last, and that it will not lower the tone of the neighborhood in which it is constructed. An example of the function of the office is described in the following quotation from part I of the building code of the city of Louisville, Ky.:

SECTION 3. Inspector of buildings, general powers, appointments, etc.—(a) The inspector of buildings shall be the head of the Division of Buildings and of all divisions and employees of same. * * *

(c) The Division of Buildings shall be charged with the survey and inspection of buildings and with the enforcement of this ordinance, and of all laws and ordinances relating to the erection, construction, alteration, addition to, repairs of, inspection, wrecking, razing, moving and safety of buildings, structures, signs, elevators, boilers, heating and ventilating apparatus, gas-fitting, house drainage and plumbing, electric wiring, fire escape and other protective devices, and shall pass upon all questions relating to the strength and durability of buildings, structures and materials, and examine and approve or disapprove, all plans and specifications therefor before a permit shall be issued, and shall promptly acknowledge the receipt of all official communications, notices, and reports.

(d) The Division of Buildings shall cause the prosecution of any person violating any of the building regulations of the city of Louisville.

(e) The Division of Buildings shall keep proper record showing the location, value and character of every building, structure or other work for which a certificate or permit is issued, and a copy of every report of inspection of a building, structure or work with the name of the inspector making the inspection and the date thereof.



Laws Requiring Examination and Licensing of Contractors¹

In the class of legislation designed not only for the protection of labor but also for the protection of the public are those laws which require the examination and licensing of contractors. These laws

¹ From Monthly Labor Review for February 1941.

specify qualifications as to general education, skill, and experience which a contractor or subcontractor must meet before he may receive his license to do business within the State. Practically all of these statutes have been enacted within the past 10 years, and at present are operative in 16 States.²

The majority of these laws apply to contractors in general, but several are more limited in their coverage, applying only to public-works contractors (Idaho, Montana, and North Dakota), highway or street contractors (Georgia), or residential-building contractors (Michigan). In a number of the States the laws are applicable only if the cost of the work reaches a specified amount. For example, in Alabama, Arkansas, Louisiana, and North Carolina, only contractors working on construction costing \$10,000 or more are affected by the law, while in Tennessee the cost of the work must exceed \$10,000. In South Carolina the act relates only to contractors on work costing \$7,500 or more. The Georgia statute applies where the cost of the work is \$15,000 or more; and in Idaho, Montana, and North Dakota, where the laws cover only public-works contractors, the contract price must exceed \$5,000, \$1,000, and \$2,000, respectively.

Examinations and Fees

Of the 16 States having laws on this subject, 10³ provide for the examination of the contractor by a State board before issuing a certificate of license. These States require a contractor to file with the State board an application accompanied by a fee ranging from \$10 in California to \$500 in Georgia. (It should be noted here that the Georgia law covers only highway or street contractors, and applies only to such contractors when the cost of the project is \$15,000 or more.)

In the remaining six States⁴ having such statutes, the contractor is not required to take an examination. The application must contain detailed information as to the contractor's experience and qualifications, his principal place of business, the value and character of other contract work completed by him, and a complete financial statement. In Arizona and New Mexico the application must also contain a certificate of recommendation of two reputable citizens of the county in which the applicant resides.

License fees range from \$3 to \$250, and in Montana, New Mexico, and North Dakota depend upon the value of the contract work performed.

Licenses issued under the provisions of these laws are good for a period of 1 year, and may be renewed upon the payment of a renewal fee ranging from \$5 to \$100.

Coverage Exemptions

There are numerous exceptions to those laws relating to general contractors. A typical example is the Arizona statute which exempts

² Alabama, Arizona, Arkansas, California, Georgia, Idaho, Louisiana, Michigan, Montana, New Mexico, North Carolina, North Dakota, South Carolina, Tennessee, Utah, Virginia.

³ Alabama, Arkansas, California, Georgia, Louisiana, Michigan, North Carolina, South Carolina, Tennessee, Virginia.

⁴ Arizona, Idaho, Montana, New Mexico, North Dakota, Utah.

from its coverage the following: (1) An authorized representative or representatives of the United States Government, the State of Arizona, or any county, incorporated city or town, irrigation district, reclamation district, or other municipality, or political corporation or subdivision of the State; (2) any construction or operation incidental to the construction and repair of irrigation and drainage ditches of regularly constituted irrigation districts or reclamation districts, or to farming, dairying, agriculture, viticulture, horticulture, or stock or poultry raising; (3) trustees of an express trust, or officers of a court, providing they are acting within the terms of their trust or office, respectively; (4) public utilities operating under regulations of the State corporation commission on construction work incidental to their own business; (5) any construction or operation incidental to the discovering or producing of petroleum or gas, or the drilling, testing, abandoning, or other operation of any petroleum or gas well when performed by the owner or lessee; (6) sole owners of property building structures on such property for their own use; and (7) work on one project by contract performed directly or indirectly by one contractor when the aggregate price, including labor, material, and all other items is less than \$500. Although similar exceptions are contained in most of the statutes, there are several laws in which they are more limited.



HOUSING

Public Housing in the United States, 1917 to 1940¹

Emphasis of the public-housing program in the United States was changed in 1940 to supply defense requirements rather than the needs of the lowest income families. Up to that time there had been two other distinct periods of development in the use of public money to supply housing. The first was of short duration in the war period, 1917-18, when emergency buildings were erected to house workers engaged in war industries. The second began in 1933 as a part of the works program to absorb the unemployed and at the same time to demonstrate the possibilities of low-cost housing which would be both durable and of good design. The present article traces public-housing progress in the first two periods. Defense housing policies and progress from 1940 through the early months of 1941 are described in the succeeding article (p. 262).

Early Experience

Experience with public housing in the United States began in 1917, when this country entered the World War. As part of its war program the Government undertook a certain amount of house building in overcrowded industrial centers where large numbers of men were employed in producing war goods, such as munitions and ships. Two Federal agencies were concerned with this work.²

¹ Summary of an article by Margaret H. Schoenfeld, in the *Monthly Labor Review* for August 1940.

² For a fuller description of this housing program, see *Monthly Labor Review*, July 1940.

One was the United States Housing Corporation in the Department of Labor, which carried out 40 housing projects in 26 localities. These were owned, built, and managed by the Government, and provided living accommodations for about 6,000 families and 8,000 single men and women. After the war various Government agencies took over 452 units and the remainder were sold to private individuals.

Wartime housing projects of the United States Shipping Board—the other agency concerned with such activities—were constructed at 25 shipyards and 1 turbine plant. In all, 28,064 men were housed in 8,644 houses, 6 boarding houses, 849 apartments, 94 dormitories, and 5 hotels.

During 1917–18, great importance was attached to provision of adequate transportation to avoid the need for moving families from areas where there were homes to workplaces where a shortage existed. For example, the appropriation for housing shipyard workers was \$75,000,000 and that for transportation facilities \$20,000,000. Where it was necessary to construct new transportation facilities the procedure followed was for the Emergency Fleet Corporation to make contracts with the transportation companies to lend the capital needed. The agreement usually provided for all work to be done by the company, payment of 5 percent interest on the full cost of the work for the duration of the war, and payment for the value of the items furnished after the termination of the war. In practically all cases, the valuation was limited to a minimum of 75 percent of the amount advanced. Additional transportation facilities were needed by yards having contracts for over 70 percent of the deadweight tonnage under construction.

Like the Emergency Fleet Corporation, the Housing Corporation often succeeded in solving housing problems by securing improved transportation. Local companies were assisted by loans or advances. In one locality, for example, the Corporation chartered a ferryboat system to get employees to their jobs, and in another special trains were placed in operation at reduced rates, the Corporation making up the deficit. Adding the loans and subsidies for the payment of reduced fares applied by the Government, it was estimated that the cost for each workman per year amounted to about \$35. As against housing workmen at an average capital cost of \$550 per man in a dormitory and between \$1,750 to \$2,250 in a house, the subsidy was considered an economy.

In the years following the 1917–18 war period, the need for low-cost housing, while recognized by certain groups, was in large part lost sight of because of the boom in private-house construction.

Beginning in 1929 residential building construction began to lag. When the Reconstruction Finance Corporation was created in 1932 new building was practically at a standstill, and to encourage such building the Corporation was empowered to issue self-liquidating building loans for limited-dividend projects subject to State or municipal control. The State of New York had created a housing agency—the New York State Housing Board—and Federal officials believed that there would be a growing demand for funds as other States and municipalities established similar bodies to promote house construction under the limited-dividend principle.

But the anticipated demand for housing loans did not materialize and no such loan was made until 1933. This was for the construction of Knickerbocker Village on a slum block of the lower East Side of New York City and under the authority of the New York State Housing Board. Knickerbocker Village was built at a cost of \$9,500,000 (loan, \$8,022,000) and consists of 1,593 dwelling units. It was designed primarily for the use of white-collar workers. Monthly rentals average \$12.50 per room, although a number of 2½-room apartments rent for as little as \$22.50.

Distress among home owners led to enactment of the Home Owners' Loan Act in June 1933. The Home Loan Bank System had already been established to facilitate payment of mortgage debts by home owners, but the situation had become so critical that action was required to prevent continuance of mass foreclosures of mortgages and sales of properties for taxes. This work was entrusted to the Home Owners' Loan Corporation. Provision was made for amortizing loans over 15 years at an interest rate of 5 percent.

During the emergency the Corporation loaned \$3,093,000,000, of which approximately \$2,750,000,000 was disbursed in exchange for defaulted mortgages and the balance was used for taxes, reconditioning, and loan costs.

A public subsidized low-rent housing program was also initiated in 1933 as part of the public-works program. Provision for the "construction, reconstruction, alteration, or repair under public regulation or control of low-cost housing and slum-clearance projects," was written into title II of the National Industrial Recovery Act. A special division was formed in the new Public Works Administration of the Department of the Interior to promote house construction.

In an effort to create employment as quickly as possible, it was decided to make loans to limited-dividend corporations to build low-cost dwellings. Among hundreds of applicants only 7 qualified for aid and the loan policy was soon abandoned. Direct construction by the PWA was substituted and when the control of subsidized housing was transferred to the United States Housing Authority early in 1938, a total of 51 large-scale projects, consisting of nearly 22,000 dwelling units, were either occupied or nearing completion.

As a pioneer agency, numerous unforeseen problems hampered the PWA. In commencing slum-clearance operations, land was acquired by condemnation proceedings, as authorized by the terms of the National Industrial Recovery Act. In a test case, however, it was held that housing did not constitute a "public use" and, therefore, the right of eminent domain could not be exercised. To avoid the inevitable loss of time in assembling plots in slum areas by purchases from owners selling voluntarily, the PWA then began to build on vacant sites. Also, assurance of local support was necessary before building in any community. Many additional questions arose as to costs, design, and planning. Nevertheless, buildings of high standard in design and practicability were erected.

The Federal Government's policy of initiating, constructing, and managing its own projects under PWA is explained by the situation existing when funds were made available for housing in 1933. The National Industrial Recovery Act required that employment be

furnished as quickly as possible. At that time the United States lacked experience with public housing and, as neither the States nor municipalities had yet established their own housing authorities, there was no possible way of building speedily unless the Federal Government itself undertook the task. The position was greatly altered, however, when a few years later the USHA took over the PWA projects and received Federal funds for future building. By that time it had become possible for the Federal Government to discontinue direct construction.

United States Housing Authority

The United States Housing Authority was required by law to sell the PWA projects or lease them as soon as possible. At the end of 1939, 32 projects had been leased to local public-housing agencies, 2 had been transferred to the Puerto Rico Reconstruction Administration, and the remaining 17 were being operated temporarily by the USHA. Under the PWA, rentals were required to be fixed on a basis that would return to the Federal Government 55 percent of the project cost plus interest over a period of 60 years. Following an entirely different policy, the USHA was authorized to establish rentals at amounts necessary to pay management, operating, and maintenance costs, plus only such additional amounts as would be consistent with maintaining the low-rent character of the projects. It was also empowered to reduce the rates of rental on PWA housing units.

While the USHA, created under the terms of the United States Housing Act of 1937, was made responsible for the existing PWA projects, its major function was to administer a highly decentralized program to rehouse families of slum dwellers in the lowest income third of the population.

The USHA does not buy land, construct projects, nor assist private builders. It does make repayable loans to public-housing agencies which meet the requirements established under the law, up to 90 percent of the total development cost of housing projects. The subsidy afforded is in the form of annual grants-in-aid to bring rents within the reach of the families for which the houses are intended.

Introduction of a procedure in 1937 requiring that the States and municipalities should initiate, construct, and manage their own projects shows the increasing recognition of public responsibility for supplying adequate low-rent dwellings. Prior to the enactment of the Reconstruction Finance Act of 1932, New York and Puerto Rico were the only jurisdictions making provision for public aid to low-cost projects. Ohio's limited-dividend corporation law of 1932 was the next to be adopted. In mid-1940 a total of 450 localities in 37 States, the District of Columbia, Puerto Rico, and Hawaii had housing authorities engaged in investigating housing conditions and either planning for or engaging in the betterment of housing conditions.

A report, issued early in April 1940, showed that average monthly shelter rents (the rent for accommodations without utility charges) established for 15,878 dwelling units in 41 USHA projects are approximately the same as rents paid for living quarters in slum areas in the same communities. For these 41 projects, in 26 communities, located

in 12 States, the average shelter rent is fixed at \$13.93 per unit per month, as compared with a median rental of about \$1.50 per month less for substandard housing in the same communities.

In establishing and maintaining low rentals the Federal subsidy has amounted to \$6 a month for each family, or about one-half of the maximum aid allowable under the United States Housing Act.

Rural Housing

House construction was initiated for rural workers by the Resettlement Administration in 1935. Projects undertaken were of three types, of which only one, consisting of groups of farms, was rural in the strict sense. The remaining two were planned suburban towns, known as "greenbelt towns"; and subsistence homesteads, where families could supplement their incomes from regular employment by raising garden produce, chickens, and even pigs.

A Federal program of subsistence homesteads had been undertaken before the Resettlement Administration was established, with funds made available from the appropriation under the National Industrial Recovery Act by the Subsistence Homesteads Division of the Department of the Interior and by the Federal Emergency Relief Administration.

The objectives of the Resettlement Administration went beyond furnishing adequate housing at low cost, for, as the name of the organization suggests, the task was one of resettlement and rehabilitation of farm families.

The Farm Security Administration succeeded the Resettlement Administration in 1937. Although its chief work consists of making loans to farmers and insuring mortgages, this agency took over about 140 housing projects established by the Resettlement Administration and other prior agencies, and has also constructed some farmhouses.

At the end of 1939 a total of 164 rural projects, consisting of some 20,000 dwelling units, had been provided under the rural program. This total includes the 3 greenbelt towns and 3 projects transferred to the Farm Security Administration, which were developed by the Federal Emergency Relief Administration and had previously been administered by corporations under the general guidance of the Works Progress Administration. Only 15 projects having 827 units had been sold to individual clients or associations, but, in addition, 2,324 individual farms on projects developed by the Resettlement Administration had been sold to homesteaders. In the spring of 1940 plans were being made for the sale of 12 more projects.

The Farm Security Administration and the Resettlement Administration before it, followed, at the start, the procedure of the PWA; that is, the direct building of dwellings. Beginning in 1938, however, the Farm Security Administration abandoned the construction of dwellings and gave contractors the benefit of its experience in finding means of lowering costs on rural projects.

When the rural program was initiated—that is, under the National Industrial Recovery Act—dwellings of a relatively expensive type were constructed. The first 4,000 units built in rural areas averaged \$3,000 each. Later a \$1,500 house was built that proved livable and

durable, and the cost of houses of this kind has subsequently been reduced by as much as \$300. Recent experience shows a progressive reduction in dwelling construction costs.

The success of the rural projects can only be measured in relation to the operation of the farm land supplied each tenant or owner, and it is too early for this. However, the three greenbelt towns, having been established primarily to house city workers, have now been occupied long enough to make it possible to furnish some information regarding the status of tenants.

In 1940, these greenbelt towns accommodated 2,259 families, of which 2,133 lived in apartments or houses and the remaining 126 on adjoining farms. The three towns differ from any others in that they were completely planned. They adjoin cities which were ascertained to have had housing shortages. They are complete in every respect, having parks, recreation areas, community buildings, and shopping centers. As the lay-out is such as to permit future expansion in housing facilities—roads, sewers, etc., were installed in the beginning—the unit cost per building is unusually high at the present stage of development. Greenbelt, Md., has been opened to private cooperative groups and under the defense program for more building with public funds.

Greenbelt, Md., was ready for occupancy in September 1937, Greenhills, Ohio, in April 1938, and Greendale, Wis., in May 1938. Rentals at Greenbelt range from \$18 to \$41 per month, with an average rental of \$31.23, including heat. Water and electricity are billed separately and are estimated to cost \$3.90 a month per family. Units range from 1 room and bath to 7 rooms, bath, and full basement. At Greenhills the rental range is from \$18 to \$42 for a 4-bedroom single-family house, and the average is \$27.62. Greendale rentals start at \$19 and extend to \$33.50 a month for a 4-bedroom house, and the average monthly rental is \$27.95.

Average incomes of families in the three greenbelt towns are \$1,500 to \$1,700.

Mortgage Loan Agencies

Another objective of the public-housing program is to lower mortgage charges. While the various agencies described have rehoused a substantial number of the lowest-income families in subsidized dwellings, at the same time improving housing standards of beauty, convenience, and durability, another group of governmental bodies has been developing machinery to promote mortgage credit under liberal terms so that private industry could expand building operations and the middle-income families might buy or rent houses.

The Federal Home Loan Bank Board administers the following agencies operating in the field of home-mortgage finance, the primary objects being to encourage and assist private agencies in making adequate long-term home-mortgage credit available and to provide a sound investment for savings of persons investing small sums.

Under the Board's supervision the Federal Home Loan Bank System, which has 12 regional banks, extends both short- and long-term loans to member home-financing institutions, such as building and loan associations, cooperative banks, savings banks, and insurance companies. The Federal Savings and Loan System is responsible for

chartering and supervising privately managed local mutual-thrift and home-financing institutions, known as Federal Savings and Loan Associations, all of which must be members of the Federal Savings and Loan System.

A special agency—The Federal Savings and Loan Insurance Corporation, which is also under the supervision of the Federal Home Loan Bank Board—insures the accounts of individual investors in all Federal Savings and Loan Associations and in approved State-chartered institutions of the savings and loan type against loss up to \$5,000 on each account.

The functions of the Home Owners' Loan Corporation in aiding distressed home owners to refinance their mortgages are described above.

Existing mortgages may be refinanced under the RFC Mortgage Co. and loans may be made for new construction where there is economic need to aid in establishing a normal market for sound mortgages. Mortgages may be purchased at par on properties on which dwellings were erected prior to January 1, 1936, and which are insured under title II of the National Housing Act. Applications for loans made by distressed holders of first-mortgage real-estate bonds and certificates are considered. The RFC Mortgage Co. does not refinance mortgages nor lend when credit is otherwise available from private sources, and in no case does it enter into mortgage arrangements covering residential buildings with less than five apartments.

The Federal National Mortgage Association purchases FHA-insured mortgages on new houses and rental-housing projects. It may finance FHA mortgages on large-scale projects. FHA-insured mortgages on dwellings on which construction was commenced prior to January 1, 1936, are not purchased by this agency.

The operations of the Federal Housing Administration are expanding steadily, and this organization, which insures loans but neither lends money, clears slums, nor builds houses, is coming to be the key factor in new-home financing and construction. Preliminary estimates show that about one-third of the nonfarm dwellings constructed in the United States during 1939 were financed with FHA-insured mortgages.

The FHA was created under the National Housing Act of 1934. The law has subsequently been amended and affords insurance of loans for the repair and modernization of existing dwellings, as well as on mortgages. Terms are liberal on loans for low-cost dwellings (under \$6,000) which are encouraged by reducing the required equity of the purchaser to 10 percent instead of the 20 percent on houses of higher price and lengthening the period of amortization from 20 to 35 years. Effective January 1, 1940, the loan regulations under the FHA were revised to encourage further construction of still lower-cost units. Under this plan the borrower is only required to have an equity of 5 percent in the completed property. The maximum loan is \$2,500 to be amortized in 15 years and 5 months. No second mortgage or other junior financing is permitted and the structures must conform with FHA minimum standards.

At the end of 1939 more than 3 billion dollars' worth of home-financing insurance had been granted by the FHA for 465,000 small houses, 2,330,000 property-improvement jobs, and 265 large projects,

with approximately 30,000 dwelling units. One-third of the total amount was insured in 1939. Nearly 12,000,000 persons are estimated to have benefited under the program.



Defense Housing Policies and Progress, 1940 and 1941¹

In order to meet housing problems arising from an influx of workers in centers of defense activity, the Division of Coordination of National Defense Housing was created in the Office of Emergency Management of the Executive Office of the President.² This division has as its chief function the coordination of the activities of the various governmental housing agencies and of private industry to meet defense housing problems.

An initial appropriation of \$150,000,000 (Public, No. 849, 76th Cong.) was made to the Federal Works Administrator for defense housing, and in April this amount was increased by another \$150,000,000. In addition, the Army and Navy were given \$100,000,000 (Public, No. 781, 76th Cong.) to provide family housing in defense areas; the powers of the United States Housing Authority were broadened to permit it to undertake projects for defense workers (Public, No. 671, 76th Cong.); and a new agency, the Defense Homes Corporation, was created and provided with equity capital to develop economically sound housing projects in defense areas where private building is lagging. The Urgency Deficiency Appropriation Act, approved March 1, 1941, included an appropriation of \$5,000,000 to provide temporary stop-gap housing in defense areas while permanent housing is being constructed. In addition to these direct authorizations for Government housing, the National Housing Act was amended to permit the Federal Housing Administration to insure up to 90 percent of the appraised value of low-cost properties without the restriction that such properties must be owner-occupied.

The defense housing program is divided into four parts. The first covers the registration of all vacant houses and rooms and the promotion of such other activities as will assure that the best use is made of available housing in each area. The second is the determination of the need for additional housing, the part that private enterprise can and will play in meeting such need, and the amount which must be provided by public agencies. The third is the planning and construction of the programmed housing, and the fourth is the management together with the establishment of policies respecting rentals and tenant selection.

In the determination of defense housing needs, a three-point research program has been developed. This program includes for each defense community—

1. A survey of labor requirements and labor supply for the purpose of estimating the number and type of workers who will be imported.
2. A survey of vacant dwellings and rooms to determine the amount of available housing.
3. A survey of the housing market to determine the prospect for private building.

¹ Summary of an article prepared by Theodore A. Veenstra, Labor Division, Office of Production Management, in the Monthly Labor Review for May 1941.

² This agency superseded the Office of Defense Housing Coordinator, appointed July 18, 1940.

Planning the Defense Housing Program

There are four main steps in the planning of the defense housing program. The purpose of the first two is to prevent, or at least minimize, the development of a housing problem. Thus, insofar as possible, the contracts are let and new production facilities allocated in such a way as to promote the use of locally resident workers and to prevent the necessity of large-scale migration of labor.

After contracts are let, efforts are made to make the best use of the available labor supply. The best use of all available housing is planned for, involving the registration of all vacant houses and rooms, the repair of those not in condition to be occupied, and the conversion, where feasible, of existing structures to accommodate more families. Finally when it appears that the demand for labor may exceed the number of resident unemployed and that the supply of vacant houses and rooms may be insufficient for incoming workers, it must be determined if additional housing is needed, and if so, how much and what kind.

To determine requirements it is necessary to know the number of workers to be brought in from outside the commuting area and their classification, particularly by marital status and expected earnings; and the amount of existing available housing, its condition, and its cost.

The Coordinator of Defense Housing has requested the Labor Division of the Office of Production Management to initiate surveys of labor requirements in a large number of communities. These surveys have been conducted for the Labor Division by the Bureau of Labor Statistics in the Department of Labor and by the Bureau of Employment Security of the Social Security Board. The majority of the reports indicated an expected influx of workers varying from a few hundred to 50,000 or more in the major defense centers. The full extent of the shift required of the country's labor supply is uncertain, but that it will involve large numbers of workers seems clear.

To obtain information on the supply of vacant dwellings and rooms, the Work Projects Administration was requested to conduct surveys of vacancies in 111 communities. Completed surveys show that the gross vacancy percentages, which include houses under construction, those for sale only, and those unfit for habitation varied from 0.9 percent in Bridgeport, Conn., to 5.5 percent in Albany, N. Y. Net rental vacancies, including only houses for rent and in good condition or needing only minor repairs, varied from 0.3 percent in Midland, Mich., and Waterbury, Conn., to 4.2 percent in St. Louis, Mo. The number of vacant dwellings having all standard facilities was still lower in practically all areas. Of 62 communities, 42 had net rental vacancy percentages of less than 1.5. Since in many of these areas defense activity was only getting under way and would not reach a peak for some time, substantial changes were expected in these percentages and resurveys therefore might be needed.

Housing Procedure and Policies

However, when a defense housing program has been planned in a locality, the Defense Housing Coordinator circulates a proposed program among the various housing agencies, members of the Defense

Advisory Commission, and officials of the Office of Production Management. Changes are made in the proposed program if the comments received from these agencies and officials indicate the need, and the program is then submitted to the President as a recommendation of the Defense Housing Coordinator. The President makes a finding regarding the need for public defense housing and directs the appropriate agency to proceed with the planning and construction of the required housing.

The agency to which responsibility is assigned for a given project may reassign the construction work within the limits of the authority granted to it by its enabling legislation. Both the Lanham Act (Public, No. 849, 76th Cong.) and Public, No. 781, 76th Cong., permit the negotiation of cost-plus-fixed-fee contracts for the construction of defense housing. Practically all contracts let have been of this type. On the other hand, contracts under Public, No. 671, 76th Cong., have been let on the basis of advertised bids. Section 303 of Public, No. 781, provides that "wages * * * shall be computed on a basic day rate of 8 hours per day and work in excess of 8 hours per day shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than one and one-half times the basic rate of pay." The Lanham Act, carrying the same provision with respect to overtime work, also provides that not less than the prevailing wages shall be paid, and arrangements have been made for a determination of prevailing wages by the Secretary of Labor under the Davis-Bacon Act. Projects under Public, No. 781, are automatically under provisions of this act.

Defense housing will be built primarily in those localities where the housing need is occasioned by an influx of defense workers or of enlisted personnel. Housing needs occasioned by "undoubling" of families already resident may receive some attention, but localities in which there is no importation of workers will have difficulty in getting defense housing projects, no matter how serious the local housing situation.

The Defense Housing Coordinator has announced that private enterprise will be given every opportunity to meet the defense housing needs before Government housing is planned. However, he has stated that where private enterprise cannot meet the expected need in time the Government will do so.

Use of public-defense housing after the emergency is foreseen. A plan involving the eventual ownership of the homes by defense workers is being experimented with in at least one locality (Camden, N. J.).

The Farm Security Administration has been allocated a number of projects with the idea that such projects will be used after the emergency to house low-income farm families now living in substandard housing.

It is not to be expected that public-defense housing will be dumped on the market in wholesale lots at the termination of the present emergency as it was after the war of 1914-18. Experiences following that war, when there was a rush to dispose of wartime housing to private investors, are in the minds of those responsible for the present housing program, and it appears that every effort will be made to prevent the depressive effects on real-estate values and private building which were felt by many of the communities in which war-

time housing was built. To insure use after the emergency the Housing Coordinator has recommended the construction of demountable or high-salvage-value housing in a fairly large number of localities where, in his opinion, the community cannot absorb the projects, either by sale to private owners or by conversion to slum-clearance projects.

Up to June 1941 policies relating to tenant selection and management had not yet been definitely formulated by the Housing Coordinator's Office. The Federal Works Administrator has, however, established rules and priorities as to the eligibility of defense workers. Eligibility is confined to those families of which the head is engaged, or about to be engaged, in work connected with and essential to the national defense. Those families which can be adequately housed by private enterprise at rentals within their financial reach will not be eligible except on a temporary basis if private enterprise at the time is not meeting their housing needs.

Rents and Standards for Defense Housing

The Federal Works Administrator has also announced a policy with respect to the rents to be charged for defense housing. This policy provides that on projects for occupancy by enlisted and civilian personnel of the Army or Navy, the Army or Navy shall establish rentals, subject to the approval of the Federal Works Administrator. On projects intended for occupancy by industrial workers the applicants will be divided into a number of household-income groups and each group shall pay shelter rents based on approximately 20 percent of the minimum income for the group.

The Division of Defense Housing Coordination has adopted standards which require that the minimum facilities for dwelling units shall be: Private toilet and bathing facilities; one bedroom; one living room; dining space in the kitchen or living room; permanently installed cooking facilities, or space for their installation; and outside connections for water adequate to service yard spaces. Minimum standards for room sizes are also given. Room arrangements are to be such as to insure privacy of individuals. Fairly detailed standards are established regarding air and ventilation, ceiling heights, closet and storage space, equipment, and facilities.

Status of the Defense Housing Program

As of April 19, 1941, funds had been allocated for 72,953 regular family dwelling units and 5,345 dormitory units to be built in 136 localities in 47 States. In addition, allocations for 2,035 trailers for family occupancy had been made. Contracts had been awarded for construction of 51,915 of the family units and for 3,801 of the dormitory units, and 8,097 dwelling units were ready for occupancy.

The Federal Works Administrator has a primary responsibility for 13,055 units allocated under Public, No. 781, 76th Cong., and for 33,470 units allocated under Public, No. 849, 76th Cong. (Lanham Act). All Public, No. 781, projects assigned to the Federal Works Administrator are being handled by the Public Buildings Administration, whereas allocations under Public, No. 849, have been divided among six Federal agencies and a number of local housing

authorities. The greater number of these latter projects, however, have been assigned to either the Public Buildings Administration or to the United States Housing Authority, acting through local housing authorities. Trailers and dormitories authorized under Public, No. 9, 77th Cong., have been placed under the jurisdiction of Farm Security Administration with the exception of ship dormitories, which were assigned to the Maritime Commission.

Of the 72,953 regular family dwelling units planned as of April 19, approximately 37,000 are for civilian industrial workers employed either in private industrial plants or in Government-operated plants; approximately 10,000 are for civilian employees of the Army and Navy other than those in Government-operated industrial plants; and approximately 26,000 are designed for use by enlisted personnel of either the Army or the Navy.



Overcrowded Housing in the United States ¹

Although one room per person is generally believed to be a minimum housing standard, the United States Public Health Service estimates from its 1935-36 survey of national health that 3,000,000 urban families have fewer rooms in their houses than there are persons, that 1,000,000 live in dwelling units having one and one-half times as many persons as rooms, and that 700,000 have twice as many persons as rooms.² These findings are based on a survey of 82 representative cities³ covering 703,489 urban households. Overcrowding between different sections of the country and between white and colored families differed widely.

Room occupancy in the 82 cities actually studied showed that the households having more than one person per room represented 16.1 percent of the total households, those with over one and one-half persons per room, 5.9 percent, and those with two or more persons per room, 3.8 percent. In presenting these figures the report states that adequate interpretation is dependent upon further knowledge of family characteristics, which was not then available.

In presenting the facts regarding room occupancy the United States Public Health Service does not take account of other factors making housing deficient, but calls attention to them. Among these are use-overcrowding, congestion in halls and on streets, inadequate ventilation, insufficient sunlight, and poor lighting.

For the purposes of this survey the number of persons per room was the ratio of the persons in the household to the total number of rooms in the dwelling occupied. Kitchens were regarded as rooms, but baths, basements, and attics not used as living quarters were excluded. Roomers were included as members of the household, and their rooms were included in determining the number of rooms, in the case of rooming houses, nurses' homes, dormitories, etc., but not

¹ From Monthly Labor Review for July 1938.

² U. S. Public Health Service. The National Health Survey, 1935-36: Adequacy of Urban Housing in the United States as measured by Degree of Crowding and Type of Sanitary Facilities. (Preliminary Reports, Sickness and Medical Care Series, Bull. No. 5.) Washington, 1938.

³ Baltimore, Md., excluded, although it was included in the study.

in the case of apartments and hotels. The percentages showing the degree of crowding are presented, by geographic areas, in table 1.

TABLE 1.—Percentages of households showing degrees of crowding, by geographic area

Geographic area	Percentage of households with—		
	More than 1 person per room	More than 1½ persons per room	2 or more persons per room
East.....	14.6	3.9	1.8
Central.....	15.4	5.5	3.6
West.....	10.2	3.5	2.3
South.....	24.9	12.1	8.8

Contrary to the general belief, overcrowding was found to be a problem of small as well as large cities. For example, in the East 16 percent of the households in cities of 500,000 population or over had more than one person per room, as compared with 10.1 percent in cities of under 25,000; in the Central States the percentages were 16.5 and 15.5 respectively; in the West 10.6 and 11.5 percent, respectively; and in the largest cities of the South (100,000 to 500,000 population) 23.1 percent of the households had more than one person per room as compared with 30.1 percent in cities of less than 25,000 population.

The relation of income to crowding is shown in table 2, classifying relief and nonrelief households separately and segregating nonrelief families by income.

TABLE 2.—Percentages of households showing various degrees of crowding, by income of family and relief status

Annual family income and relief status	Percentage of households with—		
	More than 1 person per room	More than 1½ persons per room	2 or more persons per room
All families.....	16.1	5.9	3.8
Relief families.....	34.2	16.0	10.2
Nonrelief families:			
Under \$1,000.....	17.0	7.1	5.0
\$1,000 and under \$2,000.....	11.8	2.9	1.5
\$2,000 and over.....	7.7	1.4	.7



Housing and Housing Finance in American Cities¹

By combining the results of the Real Property Inventory and the Financial Survey of Urban Housing, both conducted by the United States Bureau of Foreign and Domestic Commerce, those interested in the betterment of living conditions in the United States are furnished with valuable data for planning purposes.² Primarily cover-

¹ From Monthly Labor Review for February 1938.

² U. S. Bureau of Foreign and Domestic Commerce. Real Property Inventory, 1934. Summary and 64 Cities Combined, Washington, 1935, mimeographed; Financial Survey of Urban Housing, Statistics on Financial Aspects of Urban Housing, Washington, 1937.

ing accommodations as they existed in 1933, these reports deal with the predominant types of housing, including substandard units, and also show the ratio of owner-occupied to rented dwellings, the proportion of income spent on rent, the importance of mortgaged buildings in housing finance and contract, as well as effective rates of interest on both owner-occupied and rental properties. Statistics are presented for 64 individual cities included in the inventory of property and for 61 cities under the financial survey, in addition to country-wide summaries. The date of inauguration of this survey coincided with the time of the broadening of Federal policy in housing questions.

Condition of Housing ³

In investigating 2,633,135 dwelling units in 64 American cities the Bureau of Foreign and Domestic Commerce found that nearly 80 percent of the structures were of the single-family type, 2-family houses made up 13 percent of the total, and the remaining 8 percent were of other kinds including apartment houses. The relatively low proportion of apartment houses is doubtless accounted for by the omission of the largest cities from the survey.

On the average, owner-occupied dwellings were larger than rented units. Over 83 percent of the single-family houses occupied by owners had 5 or more rooms, as compared with 63 percent of the rented houses. One- and two-room units represented only 1.7 percent of the total owner-occupied dwellings and 5.2 percent of those rented. Owner-occupied houses had relatively more conveniences of specified types. For example, 90.6 percent of all the homes investigated had electricity for lighting, but in rented houses the percentage was 87.5 as compared with 95.4 in the owner-occupied dwellings. Gas for cooking was available in 69 percent of all the houses, mechanical refrigeration in 17.0 percent, indoor water-closets in 82.9 percent, and baths in 76.7 percent. The report reviewed commented on the large extent to which sanitary plumbing was absent in residential buildings in the cities surveyed.

On the basis of a standard of occupancy of one person to a room, 17.1 percent of the dwellings were overcrowded. In 379,434 units, making up 15.6 percent of the total, the number of persons to a room was 1 to 2; in 29,283 (1.2 percent of the total) it was 2 to 3; and in 6,120 (0.3 percent) it was over 3.

Owner-occupied single-family homes valued at \$3,000 to \$4,999 represented 29.1 percent of the total on which valuation was reported; 41.6 percent were valued at less than \$3,000, and the remaining group at \$5,000 and over. Eight percent fell in the lowest valuation class, under \$1,000, and 1.5 percent were valued at \$20,000 and over. The modal rental for all tenant-occupied units was \$20 to \$29.99 per month (25.9 percent of the total). Of single-family tenant dwellings, the classes at rental under \$10, \$10 to \$14.99, and \$20 to \$29.99, each accounted for over 20 percent of the total and together made up 63.2 percent. Multiple-family tenant dwellings brought a modal monthly rental of \$20 to \$29.99 (28.5 percent of the total).

³ For a fuller description of the findings from the Real Property Inventory see *Monthly Labor Review*, March 1935 (pp. 723-729), or *Handbook of Labor Statistics, 1936 Edition* (p. 240).

Thirty-nine percent of the occupied dwellings were in good condition, 44.5 percent in need of minor repairs, 14.7 in need of major repairs, and 1.7 unfit for use. No information was obtained on 0.1 percent. Of the occupied units, 83.5 percent were either in good condition or in need of minor repairs, as compared with 67.7 percent of those that were vacant.

Financial Status

In choosing cities to be covered in the Financial Survey of Urban Housing, consideration was given to variety in size and location in order to make the sample "sufficiently representative to give national significance to the results." In the 61 cities covered, 163,059 families made up the tenant sample, or 11.9 percent of the 1,366,443 families scheduled in the real-property inventory. The number of owner occupants in the sample was 133,478, or 14.9 percent of the 897,903 families included in the real-property inventory. Material was tabulated for 52 cities; and the findings here discussed relate to that sample. A considerable part of the financial study was devoted to family income, the controlling factor in limiting expenditures for housing. Tenants tended to spend 25 percent of their income on rent. Those with higher-than-average incomes required smaller proportions for rent, and those in the lower brackets spent a substantially higher proportion for rent. Values of owner-occupied homes averaged 2 to 3 times the annual family income; and total incomes of owner occupants averaged nearly one-third above those of tenants in the same city. The difference in total income was roughly proportionate to the difference in values of dwellings occupied in the two groups.

An average of 58.3 percent of the owner-occupied dwellings covered were mortgaged, the ratio varying from 24 to 84 percent in the 52 cities. For rented properties the proportion mortgaged was 42.8 percent. The outstanding debt on mortgaged properties averaged more than half the value in most of the cities. The average ratio of mortgage debt to value was 55.6 percent for owner-occupied units and 60.4 for rented dwellings.

Contract interest rates on first mortgages averaged nearly 6.5 percent on owner-occupied houses; rates were lowest in the Northeast and highest in the South and West. Effective rates of interest—that is, the total cost of credit after adding financing charges incident to loans—averaged about one-third of 1 percent above the contract rate. In general the interest rates on owner-occupied houses were lower than on those rented. Of the agencies lending money on real estate, individuals made up 19.7 percent, followed by savings banks (17.2 percent), commercial banks (16.5 percent), life insurance companies (15 percent), and building and loan associations (13.6 percent). Mortgage companies, the Home Owners' Loan Corporation, title and trust companies, construction companies, and other sources accounted for the remaining 18 percent.

A separate inquiry was made to determine the value of various furnishings and facilities included in rents. Information was collected on items such as electricity, gas, water, heating, garage, and mechanical refrigeration in 11 cities. The figures disclosed that ap-

proximately one-fourth of the gross apartment rental was due to inclusion of such items in the rent. In 1- and 2-family dwellings this item made up about one-tenth of the rent, notwithstanding that multifamily dwellings are of smaller average size.

In the accompanying table summary and individual-city data are given on the principal findings of the financial survey.

Value, income, ratio of rent to income, mortgages, and interest rates on dwellings, by cities

City and geographic area	Average value of 1-family dwellings, Jan. 1, 1934 ¹		Average ratio, rent to income, 1933 ² (per-cent)	Percent of properties mortgaged ³		Average ratio of mortgage debt to value of property ⁴ (percent)		Effective interest rates ⁵ (percent) (weighted)	
	Owner-occupied	Rented		Owner-occupied	Rented	Owner-occupied	Rented	Owner-occupied	Rented
Total, 52 cities.....	\$4, 447	\$3, 142	24. 2	58. 3	42. 8	55. 6	60. 4	6. 54	6. 76
New England.....	6, 214	4, 832	25. 2	68. 6	53. 8	54. 6	60. 6	6. 17	6. 20
Portland, Maine.....	6, 051	4, 445	25. 4	46. 7	41. 3	50. 5	53. 4	6. 10	6. 11
Worcester, Mass.....	6, 642	6, 133	24. 9	83. 6	69. 3	67. 1	69. 3	5. 71	5. 76
Providence, R. I.....	5, 903	4, 706	25. 5	63. 2	50. 2	49. 4	58. 7	6. 45	6. 40
Waterbury, Conn.....	8, 001	.....	24. 0	81. 1	.....	60. 0	.....	5. 84	6. 06
Middle Atlantic.....	5, 223	4, 457	27. 5	66. 9	55. 9	55. 9	62. 8	5. 91	6. 03
Binghamton, N. Y.....	6, 163	.....	23. 4	45. 3	.....	45. 9	.....	6. 18	6. 18
Syracuse, N. Y.....	5, 901	5, 436	27. 3	76. 9	67. 1	57. 0	62. 7	5. 69	5. 83
Trenton, N. J.....	4, 200	3, 135	30. 3	68. 8	39. 8	58. 4	59. 7	6. 03	6. 29
Erie, Pa.....	4, 576	3, 786	28. 6	49. 7	36. 5	57. 7	64. 5	6. 36	6. 48
East North Central.....	5, 669	4, 306	25. 9	65. 3	51. 2	56. 8	64. 2	6. 45	6. 46
Cleveland, Ohio.....	6, 249	5, 464	27. 2	67. 0	53. 2	57. 2	67. 7	6. 42	6. 35
Indianapolis, Ind.....	4, 890	3, 126	23. 1	63. 8	51. 2	56. 2	57. 0	6. 52	6. 76
Peoria, Ill.....	4, 405	3, 087	24. 9	54. 0	40. 3	50. 4	52. 5	6. 88	6. 76
Lansing, Mich.....	3, 813	2, 970	21. 0	57. 4	36. 5	59. 5	57. 0	6. 41	6. 75
Kenosha, Wis.....	5, 069	4, 969	28. 1	65. 3	48. 2	53. 8	58. 4	6. 38	6. 69
Racine, Wis.....	4, 961	4, 342	26. 3	67. 1	53. 5	58. 9	59. 8	6. 34	6. 47
West North Central.....	3, 662	2, 713	24. 5	51. 5	39. 4	52. 0	55. 3	6. 54	6. 72
Minneapolis, Minn.....	4, 204	3, 375	26. 0	55. 9	46. 3	52. 4	56. 7	6. 31	6. 68
St. Paul, Minn.....	3, 766	3, 285	27. 6	48. 0	41. 4	50. 0	53. 7	6. 46	6. 50
Des Moines, Iowa.....	3, 157	2, 486	24. 2	49. 5	35. 4	53. 2	52. 2	6. 48	6. 64
St. Joseph, Mo.....	3, 276	2, 483	19. 9	42. 9	24. 7	52. 5	54. 5	6. 80	6. 69
Springfield, Mo.....	2, 651	1, 940	20. 2	50. 1	25. 4	52. 9	48. 2	7. 51	7. 58
Fargo, N. Dak.....	4, 811	.....	25. 8	58. 5	.....	50. 4	.....	6. 40	6. 92
Sioux Falls, S. Dak.....	4, 101	3, 291	24. 3	53. 4	40. 8	46. 5	48. 8	6. 57	6. 71
Lincoln, Nebr.....	3, 548	2, 524	23. 2	48. 2	36. 5	53. 6	63. 3	6. 52	6. 66
Topeka, Kans.....	3, 186	2, 258	22. 6	44. 0	26. 2	50. 4	52. 0	7. 51	6. 99
Wichita, Kans.....	2, 722	2, 066	19. 3	53. 5	38. 8	56. 8	57. 4	7. 11	7. 23
South Atlantic.....	4, 323	3, 128	23. 3	50. 5	34. 5	56. 6	65. 5	6. 91	7. 25
Hagerstown, Md.....	4, 601	2, 535	25. 2	49. 6	26. 2	60. 9	67. 4	6. 12	5. 64
Richmond, Va.....	5, 218	3, 640	22. 2	40. 7	34. 2	59. 4	62. 6	6. 72	6. 83
Wheeling, W. Va.....	3, 768	3, 519	24. 4	35. 3	21. 9	49. 4	51. 1	6. 39	6. 15
Asheville, N. C.....	3, 807	3, 234	20. 6	46. 9	14. 5	66. 3	79. 7	6. 39	6. 35
Greensboro, N. C.....	5, 226	3, 324	16. 3	56. 8	29. 3	61. 9	61. 2	6. 35	7. 75
Charleston, S. C.....	5, 226	3, 324	24. 0	35. 9	23. 6	50. 3	51. 9	7. 12	6. 87
Columbia, S. C.....	4, 773	2, 723	22. 8	58. 4	33. 7	57. 4	62. 6	7. 39	6. 72
Atlanta, Ga.....	4, 339	2, 907	22. 7	58. 3	40. 7	57. 3	70. 0	7. 25	7. 60
Jacksonville, Fla.....	3, 499	.....	27. 5	47. 6	.....	52. 2	.....	7. 35	7. 14
East South Central.....	3, 213	2, 566	20. 3	52. 4	22. 5	59. 4	51. 1	7. 09	7. 17
Paducah, Ky.....	2, 106	1, 188	21. 5	30. 7	7. 1	58. 7	48. 2	7. 29	6. 70
Birmingham, Ala.....	3, 198	2, 703	19. 6	52. 4	22. 9	61. 1	52. 0	7. 10	7. 19
Jackson, Miss.....	4, 462	.....	25. 4	61. 5	.....	50. 4	.....	6. 93	7. 11
West South Central.....	3, 643	2, 488	21. 8	53. 4	37. 4	55. 4	56. 7	7. 45	7. 50
Little Rock, Ark.....	3, 230	1, 794	20. 3	43. 8	23. 9	62. 9	62. 2	6. 88	7. 34
Baton Rouge, La.....	3, 806	.....	22. 5	53. 3	.....	45. 0	.....	7. 55	7. 61
Oklahoma City, Okla.....	3, 833	2, 580	22. 9	61. 7	43. 1	58. 2	55. 5	7. 38	6. 98
Austin, Tex.....	3, 732	2, 529	22. 0	39. 2	30. 6	46. 4	50. 9	7. 52	9. 16
Dallas, Tex.....	3, 695	2, 796	22. 4	53. 3	39. 6	53. 5	56. 7	7. 63	7. 76
Wichita Falls, Tex.....	2, 933	1, 970	14. 7	41. 4	21. 2	66. 3	72. 4	7. 48	8. 02

See footnotes at end of table.

Value, income, ratio of rent to income, mortgages, and interest rates on dwellings, by cities—Continued

City and geographic area	Average value of 1-family dwellings, Jan. 1, 1934		Average ratio, rent to income, 1933 (per-cent)	Percent of properties mortgaged		Average ratio of mortgage debt to value of property (percent)		Effective interest rates (percent) (weighted)	
	Owner-occupied	Rented		Owner-occupied	Rented	Owner-occupied	Rented	Owner-occupied	Rented
Mountain.....	\$2,956	\$2,465	23.3	49.3	39.1	55.7	57.5	6.60	7.36
Butte, Mont.....	2,555	1,719	25.1	24.2	15.1	41.3	52.2	8.32	8.71
Boise, Idaho.....	3,147	-----	24.0	45.1	-----	43.2	-----	7.91	8.17
Casper, Wyo.....	2,594	-----	20.0	44.1	-----	56.9	-----	7.31	7.05
Pueblo, Colo.....	1,530	1,593	23.8	40.9	22.5	59.2	58.9	7.08	7.16
Phoenix, Ariz.....	4,143	3,368	21.8	55.6	43.6	56.3	53.3	7.60	7.94
Salt Lake City, Utah.....	3,224	2,677	23.7	54.0	42.9	58.0	59.8	5.83	6.97
Pacific.....	3,231	2,727	22.8	50.5	37.1	55.9	57.4	6.92	7.06
Seattle, Wash.....	3,043	2,587	22.7	49.2	36.4	54.7	57.2	6.95	6.79
Portland, Oreg.....	3,104	2,655	22.5	51.0	33.8	56.6	54.9	6.45	7.10
Sacramento, Calif.....	3,995	3,255	23.7	54.5	45.0	61.8	64.2	7.14	7.23
San Diego, Calif.....	3,568	2,872	23.1	50.6	38.3	54.4	57.6	7.48	7.66

¹ Totals for 52 cities and geographic areas weighted by total number of 1-family dwellings in each city by tenure.

² Totals for 52 cities and geographic areas weighted by total number of tenant families in each city.

³ Totals for 52 cities and geographic areas weighted by total number of mortgaged properties in each city by tenure.

⁴ Totals for 52 cities and geographic areas weighted by total value of mortgaged properties in each city by tenure.

⁵ Totals for 52 cities and geographic areas weighted by total amount of first-mortgage debt in each city by tenure.



Housing Legislation in the United States¹

The primary purpose of housing-authority legislation is to provide for the construction and administration of public low-rent housing and slum-clearance projects. In contrast, limited-dividend corporations that are formed under the laws of the respective jurisdictions are usually private bodies and organized to provide housing at a profit which, however, is strictly limited. Because of the profit feature, limited-dividend corporations have not been of much aid to the lowest income group, but have been of benefit to wage earners with incomes ranging from \$1,500 to \$2,500.

Local Housing Authorities

Prior to 1933 there were no State laws providing public aid for low-cost housing projects. Under the impetus of Federal legislation, however, housing-authority laws had been enacted in 25 jurisdictions at the end of 1936. After the passage of the United States Housing Act in 1937, a number of the States immediately adopted enabling legislation authorizing public agencies to undertake low-rent housing and slum-clearance projects, and many of the States already having such laws enacted amendatory legislation. At the present time 39

¹ From the Monthly Labor Review for October 1940, with later data. A tabular analysis of the State housing laws as of August 1, 1940, is given in the Review.

States,² the District of Columbia, Hawaii, and Puerto Rico have laws of this type.

In general the legislation provides for the establishment of State or local housing authorities by cities and counties which are non-profit public corporations that must conform to limitations designed to assure that the housing projects will be available only to persons in the lowest income group. Conditions are established for raising capital and accepting governmental aid in the form of loans or grants. The laws provide for the exercise of the power of eminent domain in condemning property for public use, and grant tax exemptions on the indebtedness and property of low-cost building agencies.

The housing authorities established for a particular city or county are usually composed of five members appointed by the mayor or the governing body of the county, with administrative functions vested in this group. In some States, however, there is a combination of local operation with some supervision by a State agency. Most of the laws empower the city council or other governing body to establish the authority.

In most jurisdictions, municipalities are specifically forbidden to be responsible for the bonds or other indebtedness of the housing authorities. However, in New York, recent legislation has authorized the making of State loans and the granting of periodic subsidies to cities or local housing authorities. In addition, the municipalities are permitted now to make loans and grant subsidies to housing authorities and to make loans to housing companies. Since January 1, 1939, a special act of the New York Legislature is required to create any housing authority.

Generally, the State does not contribute to housing projects or make loans or grants to local housing authorities. In all of the States having housing legislation, the property of housing authorities is exempt from taxation. Most of the housing statutes specifically provide for this exemption. In some States, however, the property is exempt because of other statutory or constitutional provisions. In addition to exempting real property from taxation, more than two-thirds of the States provide for tax exemption of bonds and other forms of indebtedness.

Exercise of the right of eminent domain is provided for by all housing-authority laws. However, in some States, including Arizona, Michigan, New Mexico, and Rhode Island, this power is vested in the city or county instead of in the housing authority. Under many laws the procedure follows that laid down in the existing statutes, while others provide for special methods to be used in the exercise of the right. Similarly, all laws make it possible for the housing authorities to accept Government aid in the form of loans and grants and provide for the raising of funds through special issues of bonds, notes, debentures, etc.

² Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin. The 9 States without such legislation are Iowa, Kansas, Maine, Minnesota, Nevada, Oklahoma, South Dakota, Utah, and Wyoming.

The general functions of the housing authorities established by this type of legislation are extremely broad. Although the immediate objective is to take advantage of Government aid in order to make housing available at low cost as rapidly as possible, many of the laws empower housing authorities to study long-term housing needs in their respective jurisdictions, and to determine the extent of overcrowding as well as to plan the course of future development.

Defense housing laws have been enacted in 22 jurisdictions^a authorizing housing authorities to exercise all of their powers in developing and administering housing projects for persons engaged in national defense activities and in cooperating with the Federal Government in undertaking such projects.

Limited-Dividend Corporations

In addition to the general laws authorizing public low-rent housing and slum-clearance projects, 15 States³ and the District of Columbia have enacted legislation authorizing limited-dividend housing corporations under the supervision, regulation, and control of State housing boards or commissions to provide safe and sanitary housing for families of low income and to eliminate congested and insanitary housing conditions. The profits of such corporations are limited by statute. They are usually authorized to acquire property by eminent domain with the approval of the board or commission.

In contrast with the housing-authority laws, administrative supervision of limited-dividend corporations is highly centralized, being a function of State boards of housing especially established for this purpose or of existing agencies having a relation to housing matters. State boards generally have the power to conduct hearings and to study housing conditions to determine the need for housing projects, to approve the area in which projects will be located, to approve the financing of projects, to fix the rents charged, and in general to supervise all projects.

Federal Activities

The United States Housing Authority, which was established by the United States Housing Act of 1937,⁴ is authorized to provide financial assistance to legally constituted public-housing agencies, to assist in the development of low-rent housing and slum-clearance projects which local authorities design, build, and operate on a rental basis. The financial assistance which the Authority may render consists of repayable loans which may equal 90 percent of the total development cost, and annual contributions for the purpose of bringing rents within the reach of families in the lowest income group now living in slums.⁵

^a Arkansas, Florida, Hawaii, Illinois, Indiana, Maryland, Massachusetts, Michigan, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Washington, and West Virginia.

³ Arkansas, California, Delaware, Florida, Illinois, Kansas, Massachusetts, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, and Virginia.

⁴ Supp. V to U. S. Code, 1934, title 42, secs. 1401-1430.

⁵ For a more detailed discussion of this program, see *Monthly Labor Review*, August 1940 (p. 273).

In an effort to expedite the building of low-cost housing which is needed in connection with the defense program, Congress later in 1940 passed acts permitting the War and Navy Departments and the United States Housing Authority to cooperate in making necessary housing available for persons engaged in national defense activities (Public, Nos. 671 and 781, 76th Cong.). These acts authorize the War or Navy Department to initiate projects to provide dwellings on or near military or naval reservations, posts, or bases, for rental to enlisted men with families and to persons engaged in national defense activities. Such projects may be developed by either Department or by the United States Housing Authority.

In order to assist home financing as well as to stimulate dwelling construction and to create a sounder mortgage system, the National Housing Act was enacted in 1934.⁶ This act established the Federal Housing Administration which was authorized to insure loans made for home repairs and renovation. The act also provided for residential mortgages on a long-term basis. In 1938 this act was amended and provision was made for renewing the insurance on repair loans, for insuring mortgages up to 90 percent of the value of small-owner-occupied homes, and for insuring mortgages on rental property.

Other means by which the Federal Government aids in home ownership include the Federal Home Loan Bank Board.⁷ This Board, which was created in 1932, supervises four separate agencies operating in the field of home mortgage finance—Federal Home Loan Bank System, Home Owners Loan Corporation, Federal Savings and Loan System, and Federal Savings and Loan Insurance Corporation. The major function of the Federal Home Loan Bank Board is to encourage and assist private capital to make available on an economical basis an adequate volume of long-term home mortgage credit, and to provide at the same time means for sound investment of small savings.

Constitutionality of State Housing Legislation

A number of decisions have upheld the constitutionality of State housing legislation and at the beginning of August 1941 such legislation had been sustained in 27 States.⁸

An analysis of all relevant decisions clearly indicates the validity of housing legislation as an exercise of the police power of the State. The courts have sustained the legislation generally, including the tax-exemption features and the right of housing authorities to exercise the power of eminent domain.



Operations of Urban Home Builders⁹

About 75,000 builders divided the business of constructing the 167,000 urban one-family houses that were erected in 1938. The

⁶ U. S. Code 1934, title 12, secs. 1701-1731; for amendments, see Supp. V to U. S. Code, 1934.

⁷ U. S. Code 1934, title 12, secs. 1421-1468; for amendments, see Supp. V to U. S. Code, 1934.

⁸ Alabama, Arizona, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

⁹ For fuller information see the Monthly Labor Review for May 1941 and September 1940.

typically small scale of operations, which is American practice in the case of home building, may be chiefly responsible for the fact that the cost of a house is high in comparison with the cost of equally complicated fabrications of mass-production industries in this country.

The study, based on building-permit data, indicated that two-thirds of the builders erected only one house each. These included a large number of owner builders, as well as individual craftsmen and special trades contractors whose major income was derived from subcontract work on construction credited to other enterprises. Only the person or firm having the general contract, or the owner in the case of speculative-built and of owner-built houses, was classified as a "builder."

The average number of city houses constructed per builder was 2.2 in 1938. For the 24,000 who built 2 or more houses each, the average was 4.8. The latter figure may more nearly represent the size of builders who depended on such construction for their entire livelihood. In any case, it appears that urban home builders in 1938 either (1) had sources of income other than home building, (2) made a large profit on each house, or (3) received very little income. The fact that so many owners chose to act as their own general contractors suggests that profits per house may have been high, although there are other reasons contributing to this situation. In a few towns, preferential treatment on building-permit fees is given to construction for the builder's own occupancy. In other cases, social-security tax schedules provided an incentive to eliminate the general contractor, in law, if not in fact.

*Operations of urban home builders, 1938, by size of city*¹

Size of city	Number of builders					Number of houses built				
	All builders	Builders of—				All builders	Builders of—			
		1 house	2-4 houses	5-9 houses	10 or more houses		1 house	2-4 houses	5-9 houses	10 or more houses
All cities.....	74, 800	50, 900	17, 300	4, 600	2, 000	166, 900	50, 900	44, 700	28, 200	43, 100
100,000 or more.....	21, 800	13, 800	5, 200	1, 700	1, 100	66, 100	13, 800	13, 600	10, 700	28, 000
25,000 to 100,000.....	15, 600	11, 000	3, 400	900	300	30, 400	11, 000	8, 700	5, 600	5, 100
Less than 25,000.....	37, 400	26, 100	8, 700	2, 000	600	70, 400	26, 100	22, 400	11, 900	10, 000
	Average number of houses per builder					Percent of houses built on contract				
All cities.....	2.2	1.0	2.6	6.1	21.6	53	55	61	60	36
100,000 or more.....	3.0	1.0	2.6	6.3	25.5	42	56	60	50	24
25,000 to 100,000.....	1.9	1.0	2.6	6.2	17.0	61	61	60	64	60
Less than 25,000.....	1.9	1.0	2.6	6.0	16.7	59	53	63	68	59

¹ Includes only builders of 1-family houses within city limits.

Slightly over half the new urban 1-family houses were built on contract in 1938. This is higher than quoted opinions of informed individuals sometimes suggest. There are several reasons for the disparity. Possibly the most important is that the big builders in metropolitan communities ordinarily build on speculation, and even informed opinion tends to overweight their operations in appraising the whole. Another reason is inherent in the data, which include as contract-built any house which is contracted for before the builder

begins construction. It is common practice for a developer to erect several houses as a speculation and to sell copies of these houses on order. On the other hand, houses built by owner-builders are not classed as contract-built, since the owner does not know how much his structure will cost until it has been completed; in other words, he is speculating. In view of this fact, it is noteworthy that over half the houses built even by 1-house builders in 1938 were erected on contract.

Only in the case of builders of 10 or more houses in cities of 100,000 or larger was more than half the home-building activity speculative. Builders of 2-4 and 5-9 houses a year carried on most of their operations under contract, even in the large cities. The big builders in cities under 100,000 population had construction or sales contracts before starting the majority of homes they erected.

In addition to the 167,000 urban 1-family houses for which permit data are available, it is estimated that about 94,000 were built outside city limits, but not on farms, in 1938. Many of these rural nonfarm houses were built by city builders. No account is taken of this fact in the classification of urban builders by size. Similarly, there probably were builders whose operations were confined to the areas outside city limits. The data presented herewith do not include them.



Working Conditions of Maintenance Staffs on Federal Housing Projects ¹

Working conditions of maintenance and other employees on housing projects constructed with Federal funds are established by two different procedures, depending upon whether the dwellings are owned and administered by the Federal Government or leased or sold to local authorities.² If the Federal Government retains the management of dwellings the terms of employment of the maintenance and managerial staff are determined under civil-service rules, but if a property is taken over by the local housing authority the working conditions of all persons employed on the project must conform with those prevailing in the community for the same or similar kinds of employment. These principles are laid down in section 16 of the United States Housing Act of 1937.

Although the problems confronting managers of federally and locally operated projects are essentially the same, the methods of dealing with them are somewhat different. The employee on a federally operated project receives the wages fixed by the United States Civil Service Commission for Federal employees, his working hours are similarly regulated, and he is entitled to compensation for injuries received in the performance of duty, under the Employees' Compensation Act of 1916. Persons employed on locally operated projects lack such Federal protection.

Maintenance and other employees on a Federal project are hired directly by the United States Housing Authority through the project manager. As Federal employees these workers are subject to pay-

¹ From Monthly Labor Review for December 1938.

² Public, No. 412, 75th Cong.; United States Housing Act of 1937; and U. S. Housing Authority, press release No. 28364 H, 1938.

ment at rates established by the Civil Service Commission. If work is done under contract, the wage rates must conform with the terms of the Davis-Bacon Act, if the contract is of a value of \$2,000 or over; if it is of lower value, the contractor is free to fix the scale of pay. This means that the Housing Authority is not responsible for wage conditions under either contract.

On projects turned over to local management, the wage rates of maintenance and other employees must be the local prevailing rates. Unless there is a State or local law providing for establishing rates, the United States Housing Authority must give final approval of the rates to be paid. The manager may be called upon by the local housing authority to make the required study of wages of a comparable nature for establishing prevailing wages, when no State law or city ordinance provides minimum working standards. Hours of work are those established by the local housing authority, unless fixed by a State or local law.

It is likely that work other than that of ordinary maintenance will be required on every project at intervals. This will entail the making of special rates for jobs such as painting. To establish the pay scale an investigation must be made, and the resulting rate may be the union rate, if that prevails, but will conform to whatever rate is actually most often paid.

One of the most important tasks facing managers is stated to be the enforcement of the hours standards that are established. Other personnel questions will inevitably arise, such as lay-off policy, discharge, and rehiring.



Comparison of Construction Costs of Small Houses, by Cities

Quarterly comparisons of the costs of building the same type of houses in various cities are issued by the Federal Home Loan Bank Board.¹ In publishing the actual costs of building, beginning in January 1936, the Board took the first action looking toward the development of indexes of small-house construction. The figures first made available were for 27 cities in 4 of the 12 Federal Home Loan Bank districts. The coverage was later extended to cities in all 12 districts. Information has been obtained as to the exact cost of materials and labor necessary to build a specified typical house. Wide differences sometimes exist in costs between cities in the same State.

¹ From Monthly Labor Review for March 1936, with later data from the Federal Home Loan Board Review for March 1941 (Statistical Supplement) and April 1941.

TABLE 1.—Total costs and cubic-foot costs of building the same typical house in selected cities in March 1940 and March 1941

Federal Home Loan Bank district, and city	Cubic-foot cost		Total cost	
	March 1941	March 1940	March 1941	March 1940
No. 1.—Boston:				
Hartford, Conn.	\$0. 268	\$0. 247	\$6, 424	\$5, 937
New Haven, Conn. ....	. 262	. 244	6, 288	5, 850
Portland, Maine. ....	. 224	. 219	5, 369	5, 256
Boston, Mass. ....	. 282	. 270	6, 760	6, 490
Manchester, N. H. ....	. 242	. 225	5, 801	5, 390
Providence, R. I. ....	. 262	. 251	6, 281	6, 035
Rutland, Vt. ....	. 245	. 222	5, 880	5, 321
No. 4.—Winston-Salem:				
Birmingham, Ala. ....	. 266	. 217	6, 392	5, 200
Washington, D. C. ....	. 260	. 239	6, 236	5, 741
Tampa, Fla. ....	. 258	. 239	6, 189	5, 736
West Palm Beach, Fla. ....	. 273	. 243	6, 550	5, 824
Atlanta, Ga. ....	. 244	. 205	5, 846	4, 921
Baltimore, Md. ....	. 254	. 198	6, 088	4, 750
Cumberland, Md. ....	. 252	. 235	6, 058	5, 631
Asheville, N. C. ....	. 240	. 208	5, 752	4, 998
Raleigh, N. C. ....	. 228	. 209	5, 478	5, 009
Salisbury, N. C. ....	. 196	. 203	4, 716	4, 863
Columbia, S. C. ....	. 231	. 197	5, 540	4, 730
Richmond, Va. ....	. 232	. 202	5, 570	4, 848
Roanoke, Va. ....	. 251	. 217	6, 021	5, 199
No. 7.—Chicago:				
Chicago, Ill. ....	. 296	. 283	7, 093	6, 787
Peoria, Ill. ....	. 303	. 293	7, 267	7, 024
Springfield, Ill. ....	. 311	. 295	7, 463	7, 068
Milwaukee, Wis. ....	. 292	. 253	7, 013	6, 063
Oshkosh, Wis. ....	. 277	. 246	6, 649	5, 904
No. 10.—Topeka:				
Denver, Colo. ....	. 271	. 259	6, 500	6, 222
Wichita, Kans. ....	. 241	. 240	5, 790	5, 760
Omaha, Nebr. ....	. 256	. 257	6, 148	6, 156
Oklahoma City, Okla. ....	. 275	. 252	6, 590	6, 051

Specifications of the standard house are sent every 3 months to all those reporting. This standard house is a detached dwelling having a volume of 24,000 cubic feet, and with living room, lavatory, dining room, and kitchen on the first floor; three bedrooms and bath on the second floor; open attic, which could be finished into one or two rooms; and a one-room cellar containing heating and laundry facilities. The exterior finish is wide-board siding with brick and stucco. The 1-car garage is attached to the house. It is assumed that the house plot is level and that no unusual soil conditions are present that would add to costs. Structural standards such as would meet municipal building codes are specified and the reports take into account commonly used materials and methods. Reports are not based on unusual materials or prefabricated walls, etc., but it is provided that should such items come into common use they would be included in the specifications. The house described might be placed in the \$6,000 class, the Board states.

The field worker, in addition to securing material costs, reports on prevailing labor costs as reflected in hourly wage rates. "The number of labor-hours required to build into this house each quantity of the items contained on the master materials list has been fixed on the basis of estimates which are known to be correct within narrow limits," the report states.

To the labor and material cost is added a fixed amount to cover overhead expenses, such as public liability and workmen's compensation insurance and a 10-percent profit item. The estimate does not

include planting, gas range and water heater, refrigerator, insect screens, shades, wall decoration, lighting fixtures, or land.

The Board seeks to secure accuracy in the reports by requesting prices on the same list of materials and having the work done by the same personnel every 3 months. It must not be assumed that the cost of any six-room house with bath constructed in a given city would be the same as that reported. Any change in house plan would affect the price. The cost figures do, however, supply an exact record of the trend in house-building costs in each city.

Index numbers of building costs for the standard house are shown in table 2, by years from 1936 to 1940, inclusive, for materials and labor separately, and for total costs.

TABLE 2.—*Index numbers of building costs for the standard house*

[Average month of 1935-39=100]

Year	Element of cost		
	Material	Labor	Total
1936.....	97.1	94.4	96.2
1937.....	105.6	102.3	104.5
1938.....	101.5	105.4	102.8
1939.....	100.1	105.2	101.8
1940.....	102.2	105.4	103.3



Building and Loan Associations, 1939¹

Increases in total assets, in amount of mortgage loans made during 1939, and in the surplus and undivided profits at the end of the year, as compared with 1938, were reported by the United States Building and Loan League.² The assets of the 8,328 associations at the end of 1939 totaled \$5,674,262,030. The number of associations and the membership both showed decreases from 1938 to 1939.

TABLE 1.—*Status of building and loan associations, end of 1939, by States*

State	Number of associations	Number of members	Total assets	Mortgage loans		Surplus and undivided profits
				Made in 1939	Outstanding, end of year	
Alabama.....	36	19,416	\$13,907,409	\$2,469,562	\$8,624,876	\$1,502,954
Arizona.....	3	3,319	3,661,900	¹ 1,212,340	3,212,958	60,979
Arkansas.....	42	9,227	14,584,417	4,144,109	12,538,167	1,328,645
California.....	180	223,820	276,904,146	¹ 37,898,061	226,730,255	² 18,088,641
Colorado.....	56	27,909	32,275,009	9,182,273	22,812,091	2,876,355
Connecticut.....	50	47,072	38,685,325	8,086,914	35,138,662	2,078,448
Delaware.....	44	16,131	13,649,746	¹ 246,800	11,584,216	408,053
Florida.....	82	39,238	55,185,709	¹ 16,680,056	45,661,098	1,351,218
Georgia.....	67	29,457	28,955,743	¹ 6,334,717	26,593,327	1,053,064
Idaho.....	13	14,794	11,190,221	1,605,392	9,389,916	465,713

See footnotes at end of table.

¹ From Monthly Labor Review for January 1941.

² United States Savings and Loan League. Part 1 of Secretary's Annual Report, by H. F. Cellarius. Cincinnati, 1940.

TABLE 1.—*Status of building and loan associations, end of 1939, by States—Con.*

State	Number of associations	Number of members	Total assets	Mortgage loans		Surplus and undivided profits
				Made in 1939	Outstanding, end of year	
Illinois.....	649	373, 934	\$346, 856, 591	\$30, 368, 893	\$242, 073, 900	\$20, 673, 716
Indiana.....	254	175, 133	169, 864, 207	14, 748, 452	119, 961, 559	13, 307, 878
Iowa.....	93	53, 295	50, 519, 371	13, 327, 579	40, 529, 243	2, 190, 969
Kansas.....	140	85, 257	73, 066, 895	10, 720, 620	46, 494, 734	4, 934, 225
Kentucky.....	173	120, 072	113, 473, 401	10, 646, 102	86, 656, 851	6, 671, 206
Louisiana.....	73	109, 648	93, 818, 249	21, 370, 482	77, 803, 962	9, 100, 001
Maine.....	41	24, 927	23, 918, 322	1, 366, 789	20, 272, 879	1, 541, 221
Maryland.....	684	3 193, 305	188, 894, 704	1 9, 952, 960	115, 734, 586	4 11, 785, 036
Massachusetts.....	210	421, 691	492, 254, 576	76, 527, 627	373, 685, 098	30, 140, 561
Michigan.....	82	115, 690	118, 178, 131	15, 552, 783	64, 066, 275	7, 682, 681
Minnesota.....	76	95, 830	75, 764, 655	24, 466, 793	65, 545, 332	2, 547, 398
Mississippi.....	41	7, 762	9, 029, 641	1, 677, 692	7, 781, 518	746, 698
Missouri.....	213	152, 866	131, 496, 877	7, 876, 655	98, 523, 410	9, 241, 688
Montana.....	22	16, 154	11, 539, 377	2, 828, 865	9, 066, 161	884, 919
Nebraska.....	69	84, 118	66, 186, 169	10, 025, 753	47, 412, 065	6, 671, 188
Nevada.....	4	927	875, 887	1 99, 460	17, 624, 960	62, 599
New Hampshire.....	30	23, 088	19, 355, 008	2, 105, 507	17, 340, 863	1, 210, 524
New Jersey.....	1, 225	497, 787	543, 713, 064	1 246, 874	276, 433, 853	150, 890, 236
New Mexico.....	21	4, 269	5, 869, 655	1 586, 323	4, 989, 555	481, 852
New York.....	269	591, 791	422, 334, 142	69, 263, 712	325, 381, 112	29, 046, 503
North Carolina.....	181	135, 580	98, 471, 931	25, 930, 190	87, 620, 800	7, 431, 237
North Dakota.....	23	14, 379	11, 545, 293	1, 315, 175	9, 042, 676	774, 678
Ohio.....	696	1, 438, 559	827, 015, 918	146, 555, 926	590, 839, 090	63, 508, 613
Oklahoma.....	69	42, 200	64, 497, 218	16, 277, 183	52, 174, 288	5, 968, 619
Oregon.....	32	29, 503	30, 477, 081	8, 046, 434	23, 730, 195	777, 067
Pennsylvania.....	1, 606	465, 981	481, 790, 597	53, 768, 141	351, 151, 791	59, 649, 031
Rhode Island.....	9	55, 871	40, 304, 438	9, 542, 208	34, 438, 410	1, 689, 638
South Carolina.....	72	22, 519	27, 299, 839	8, 355, 524	24, 503, 377	1, 468, 642
South Dakota.....	15	5, 867	4, 636, 665	4, 313, 266	3, 793, 608	246, 945
Tennessee.....	47	2, 969	26, 948, 211	6, 371, 178	23, 684, 996	935, 566
Texas.....	153	86, 478	95, 194, 076	27, 005, 961	73, 834, 514	5, 920, 684
Utah.....	21	30, 427	27, 580, 964	1 1, 461, 565	15, 706, 452	4, 024, 995
Vermont.....	14	6, 852	6, 228, 599	1, 590, 853	5, 406, 076	472, 995
Virginia.....	80	51, 795	51, 637, 650	1 6, 482, 611	45, 219, 565	4, 256, 128
Washington.....	68	152, 283	68, 728, 096	11, 879, 029	50, 924, 662	4, 515, 722
West Virginia.....	61	25, 918	27, 975, 138	1 3, 864, 043	19, 892, 427	2, 717, 719
Wisconsin.....	186	162, 538	171, 792, 195	20, 627, 381	102, 406, 681	14, 767, 829
Wyoming.....	14	4, 906	6, 014, 730	1, 276, 769	4, 476, 884	651, 515
District of Columbia.....	29	152, 287	152, 759, 857	47, 742, 163	143, 191, 176	15, 093, 046
Alaska.....	1	216	214, 580	1 259, 513	195, 095	4, 477
Hawaii.....	9	14, 456	7, 109, 507	1 673, 398	6, 110, 480	439, 886
Total:						
1939.....	8, 328	6, 499, 511	5, 674, 262, 030	710, 058, 596	4, 111, 066, 745	534, 340, 101
1938.....	8, 951	6, 829, 167	5, 629, 564, 869	571, 161, 951	3, 918, 661, 795	517, 112, 464

¹ Federal associations only; no data for State-chartered associations.

² Not including (nonwithdrawable) guaranty capital stock of State-chartered associations.

³ Estimated.

⁴ Partly estimated.

The relative importance of the associations chartered under the State and Federal acts is shown in table 2.

TABLE 2.—*Membership and assets of building and loan associations under State and Federal laws, 1938 and 1939*

Type of association	1939			1938		
	Number of associations	Member-ship	Total assets	Number of associations	Member-ship	Total assets
State-chartered associations.....	6, 918	5, 051, 978	\$4, 096, 978, 221	7, 583	5, 167, 504	\$4, 318, 357, 238
Federal-chartered associations.....	1, 410	1, 447, 533	1, 577, 283, 809	1, 368	1, 661, 663	1, 311, 207, 631
Total.....	8, 328	6, 499, 511	5, 674, 262, 030	8, 951	6, 829, 167	5, 629, 564, 869

Table 3 reveals a continuous decline in number of associations through 1939; and in total assets until 1939, when a slight increase (less than 1 percent) occurred. Membership likewise fell except in the 2 years 1937 and 1938.

TABLE 3.—*Development of building and loan associations, 1930 to 1939*

Year	Number of associations	Membership	Assets
1930.....	11,777	12,350,928	\$8,828,611,925
1931.....	11,442	11,338,701	8,417,375,605
1932.....	10,997	10,114,792	7,750,491,084
1933.....	10,727	9,224,105	6,977,631,676
1934.....	10,920	8,370,210	6,450,424,392
1935.....	10,534	7,059,567	5,888,710,326
1936.....	10,256	6,125,971	5,741,985,430
1937.....	9,762	6,233,019	5,711,658,410
1938.....	8,951	6,829,167	5,629,564,869
1939.....	8,328	6,499,511	5,674,262,030



Work of District of Columbia Alley Dwelling Authority

The Alley Dwelling Authority for the District of Columbia (which is coterminous with the City of Washington) was authorized by an act of Congress on June 12, 1934. It was established as an independent Federal agency working with funds appropriated by Congress and therefore had a somewhat different status from other local housing agencies. In recent years the Authority has obtained necessary funds under contract with the United States Housing Authority.¹ Provision of Federal assistance through the facilities of the USHA follows the same principles as in other cities. In amending the enabling legislation permitting Washington to share in the benefits of the Federal housing law of 1937, Congress also extended the coverage of the Alley Dwelling Act so that operations might be extended beyond alley squares. Defense housing activities are performed by the Alley Dwelling Authority as agent of the Federal Works Agency.

Alleys reclaimed are in the old parts of the city where most of the available land is in use. In securing land, condemnation is resorted to only after making every effort to purchase from owners under an equitable arrangement. Prices paid may in no case exceed the assessed land valuation plus 30 percent; the average purchase price to date has been 12.25 percent above the assessment. Some purchases have been made at less than the assessment, but in general the value for tax purposes has been regarded as approximately the actual value.

The Authority is obligated to put the land acquired to productive uses. On the plots secured it has provided for a variety of needs—automobile repair shop, storage garages, parking lot, row houses, and reconditioned houses. Sites have also been sold.

From the beginning of the Authority's activity to March 31, 1941, 5 residential and 9 nonresidential projects had been constructed under title I of the Alley Dwelling Act, which provides that the projects

¹ See Monthly Labor Review for January 1939.

shall be self-liquidating. Of the 5 residential housing developments, 1 is for white families, and 4 are for colored. In all they contain 112 units in 1-family and multiple dwellings. The lowest monthly rental for a reconditioned house is \$13.55. Rents range as high as \$37.50 for a 4-room-and-bath apartment.

The program for subsidized housing, as of March 31, consisted of 10 projects equally divided between slum and vacant sites. Of these projects 2 were for white families and 8 for colored. The approximate number of dwelling units totals 3,100. At the end of March, 3 projects were being occupied and the others were either under construction or in the planning stage. Rents are graded on the basis of tenants' incomes and range upward from \$11 a month for each size of dwelling to top grades which may be fixed at \$27 to about \$33 a month.



Labor Involved in Various Types of Construction

In the use of public construction as a means of relieving unemployment it is highly important to know how much and what types of labor are benefited by the money spent. Clearly the amount and character of the labor assisted is influenced greatly by the choice of construction projects. For instance, water and sewerage projects would be expected to benefit primarily workers in the cast-iron pipe industry, whereas street and highway projects would result in added employment in the cement industry. The comparative degrees of mechanization in the two industries and the amounts of labor required at the construction sites as contrasted with that in the factories are additional considerations in appraising the value of different types of projects as means of relieving unemployment.

When the PWA and other Federal construction undertakings were initiated in the early 1930's there was little or no information as to the labor which would be required in such undertakings. To eliminate resort to trial-and-error methods in the event that a similar large-scale public works program is undertaken in the future, it is necessary in selecting among proposed projects to be able to evaluate each project in terms of several criteria. What types and numbers of workmen would be used at the construction site? What types and quantities of materials would be used and what industries would be most affected? How much labor would be employed in factories, mines, and lumber camps, as well as on transportation facilities, in furnishing material and equipment? What proportion of the total outlay would reach the workers, as opposed to that which would be spent for materials? How are the proposed projects located with reference to the available supply of various types of workmen for whose benefit the program is designed?

To furnish such information the Bureau of Labor Statistics made a series of studies designed to show the amount and types of labor involved in the manufacture of important building materials and in their transportation to the place of construction. In addition, studies were made as to the character and amount of labor used at the construction site in various kinds of buildings, such as a large apartment house, a group of small houses, public schools, and public roads.

As a result of these studies data were made available by which it was possible not only to know, with a fair degree of accuracy, the amount and kind of labor actually given employment by completed projects, but also to estimate the labor requirements in contemplated projects.

Because of limitations of space it is not possible to summarize these studies in this Handbook. However, for reference purposes, a list of articles in the Monthly Labor Review presenting the results of the several studies is given below. Most of the studies were made by Bernard Topkis of the Bureau of Labor Statistics, under the direction of Herman B. Byer, chief of the Bureau's Construction and Public Employment Division.

Labor involved in production and transportation of building materials:	<i>Monthly Labor Review</i>
Cement.....	March 1936
Clay products.....	December 1937
Electrical products.....	March 1939
Iron and steel products.....	May 1935
Lumber and millwork.....	May 1937
Plumbing and heating supplies.....	June 1938
Sand and gravel.....	July 1939
Material used in houses built by TVA.....	June 1937
Rail transportation of construction materials.....	October 1937
Labor involved in construction at site:	
Large apartment building.....	September 1935
Small houses.....	May 1939
Road construction.....	April 1939
School construction.....	June 1939
Overhead labor in construction.....	February 1940

Immigration, Emigration, and Naturalization

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 Edition.

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Immigration, Emigration, and Naturalization

The immigration and naturalization laws of the United States are now administered by the Immigration and Naturalization Service of the United States Department of Justice. Previous to June 14, 1940, that Service was in the United States Department of Labor, from which it was then transferred under the President's Reorganization Plan No. V.

The data on immigration and naturalization in this section are taken from reports and statistical statements from the Immigration and Naturalization Service.

Immigration Into the United States, 1820-1940

Records of immigration into the United States began with the year 1820. Table 1 shows the immigration, by periods, from 1820 to 1940 and by certain important geographical divisions and countries. Over the whole period of 121 years the total immigration was 38,290,443, of which 18,530,787, or 48.4 percent, came from northern and western Europe. The great influx from southern and eastern Europe came during the years 1901-1914, since which time the immigration from that division has been greatly reduced.

The total immigration for the decade 1931-40 was only 528,431, as compared with 4,107,209 in the decade 1921-30. A major influence in restricting immigration has been the regulations in force since 1930, under which visas are denied to prospective immigrants if it is believed they may become public charges in the United States.

The statistics on immigrant aliens admitted include not only quota immigrants, but also nonquota immigrants (wives of citizens, husbands who married citizen wives prior to July 1, 1932, children of citizens, etc.).

TABLE 1.—*Immigration to the United States from specified sources, 1820-1940*¹

Period or year	Total immigration	From Europe			From Asia	From Canada and Newfoundland ³	From Mexico	From West Indies	From other countries ⁴
		Northern and western ²	Southern and eastern	Total					
Total, 1820 to 1940.....	38,290,443	18,530,787	14,093,848	32,624,635	918,539	3,005,728	778,255	446,971	516,315
1820-30.....	151,824	103,119	3,389	106,508	15	2,486	4,818	3,998	33,999
1831-40.....	599,125	439,739	5,949	495,688	48	13,624	6,599	12,301	70,865
1841-50.....	1,713,251	1,592,062	5,439	1,597,501	82	41,723	3,271	13,528	57,146

¹ No official records were made of the influx of foreign population to this country prior to 1820. Although the number of immigrants arrived in the United States from the close of the Revolutionary War up to 1820 is not accurately known, it is estimated by good authorities at 250,000.

For 1820-67 the figures are for alien passengers arriving; for 1868-1903, for immigrants arriving; for 1904-6, for aliens admitted; and for 1907-34, for immigrant aliens admitted. The years from 1820-31 and 1844-49, inclusive, are those ending Sept. 30; from 1833-43 and 1851-67 those ending Dec. 31; and beginning with 1869 and thereafter those ending June 30. The other periods cover 15 months ending Dec. 31, 1832; 9 months ending Dec. 31, 1843; 15 months ending Dec. 31, 1850; and 6 months ending June 30, 1868.

² Northern and western Europe comprises Belgium, Denmark, France, Germany, Iceland, Luxemburg (1925-34), Netherlands, Norway, Sweden, Switzerland, and England, Ireland, Scotland, Wales, and United Kingdom not specified. Southern and eastern Europe comprises the other countries on that continent.

³ From 1820-98 includes all British North American possessions.

⁴ Includes Central and South America, Africa, Australia, Pacific Islands, and countries not specified.

TABLE 1.—Immigration to the United States from specified sources, 1820-1940—Con.

Period or year	Total immigration	From Europe			From Asia	From Canada and Newfoundland	From Mexico	From West Indies	From other countries
		Northern and western	Southern and eastern	Total					
1851-60	2,598,214	2,431,336	21,324	2,452,660	41,455	59,309	3,078	10,660	31,052
1861-70	2,314,824	2,031,642	33,628	2,065,270	64,630	153,878	2,191	9,046	19,809
1871-80	2,812,191	2,070,373	201,889	2,272,262	123,823	383,640	5,162	13,957	13,347
1881-90	5,246,613	3,778,633	968,413	4,737,046	68,380	393,304	1,913	29,042	16,928
1891-1900	3,687,564	1,643,492	1,915,486	3,558,978	71,236	3,311	371	33,066	20,002
1901-10	8,795,386	1,910,035	6,225,981	8,136,016	243,567	179,228	49,642	107,548	79,387
1911-20	8,795,811	997,438	3,379,126	4,376,564	192,559	742,185	219,004	123,424	82,075
1921-30	4,107,209	1,284,023	1,193,880	2,477,853	97,400	924,515	459,287	74,899	73,255
1931-40	528,431	198,895	149,394	348,289	15,344	108,527	22,319	15,502	18,450
1921	805,228	138,551	513,813	652,364	25,034	72,317	30,758	13,774	10,981
1922	309,556	79,437	130,948	210,385	14,263	46,810	19,551	7,449	5,098
1923	522,919	156,429	151,491	307,920	13,705	117,011	63,768	13,181	7,334
1924	706,896	203,346	160,993	364,339	22,065	200,690	89,336	17,559	12,907
1925	294,314	125,248	23,118	148,366	3,573	102,753	32,964	2,106	4,547
1926	334,488	126,437	29,125	155,562	3,413	93,368	43,216	3,222	5,607
1927	335,175	126,721	41,647	168,368	3,669	84,580	67,721	4,019	6,818
1928	307,255	116,287	42,246	158,533	3,380	75,281	59,016	4,058	7,007
1929	279,678	114,460	44,129	158,598	3,758	66,451	40,154	4,306	6,411
1930	241,700	97,118	50,320	147,438	4,535	65,254	12,703	5,225	6,545
1931	97,139	34,719	27,190	61,909	3,345	22,183	3,333	2,496	3,873
1932	35,576	7,762	12,817	20,579	1,931	8,003	2,171	1,029	1,863
1933	23,068	4,792	7,591	12,383	552	6,187	1,936	862	1,148
1934	29,470	7,967	9,243	17,210	597	7,945	1,801	861	1,056
1935	34,956	9,564	13,214	22,778	682	7,782	1,560	931	1,223
1936	36,329	10,491	12,989	23,480	721	8,121	1,716	955	1,306
1937	50,244	16,635	15,228	31,863	1,065	12,011	2,347	1,322	1,636
1938	67,895	25,291	19,204	44,495	2,376	14,404	2,502	2,110	2,008
1939	82,998	44,154	18,984	63,138	2,162	10,813	2,640	2,231	2,014
1940	70,756	37,520	12,934	50,454	1,913	11,078	2,313	2,675	2,323

A comparison of the numbers of immigrant aliens admitted and of the numbers of alien emigrants permanently departed in 1940 and the 4 preceding years, by countries, is given in table 2.

TABLE 2.—Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by countries of last or intended future permanent residence

Last or future residence	Immigrant					Emigrant				
	1936	1937	1938	1939	1940	1936	1937	1938	1939	1940
All countries	36,329	50,244	67,985	82,998	70,756	35,817	26,736	25,210	26,651	21,461
Europe	23,480	31,863	44,495	63,138	50,454	19,667	14,258	13,185	13,770	9,143
Albania	224	222	254	229	152	65	24	46	31	21
Belgium	276	307	478	683	1,713	193	122	129	121	61
Bulgaria	91	93	123	129	87	70	35	26	36	21
Czechoslovakia	1,052	1,912	3,203	2,896	1,074	459	269	224	145	39
Denmark	162	203	366	306	250	232	266	223	199	140
Estonia	33	29	46	93	75	36	33	18	17	17
Finland	76	218	421	411	233	297	262	267	197	231
France	812	1,018	1,475	1,907	2,575	782	570	477	469	542
Germany	7,023	11,375	17,199	33,515	21,520	3,819	2,445	2,270	4,211	1,978
Great Britain:										
England	1,028	1,377	1,890	2,739	5,850	2,862	2,276	2,034	1,639	998
Scotland	254	309	338	277	263	1,389	1,075	892	651	312
Wales	28	40	34	42	45	90	110	65	47	18
Greece	863	875	1,009	907	811	807	374	460	470	261
Hungary	559	739	973	1,348	1,902	216	149	119	124	136
Ireland (Eire)	328	412	914	1,101	749	1,107	795	652	676	322
Italy	6,774	7,192	7,712	6,570	5,302	2,064	1,726	1,788	1,829	1,534
Latvia	58	92	125	168	288	33	15	20	18	13
Lithuania	129	193	305	290	262	95	105	99	43	24

TABLE 2.—Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by countries of last or intended future permanent residence—Continued

Last or future residence	Immigrant					Emigrant				
	1936	1937	1938	1939	1940	1936	1937	1938	1939	1940
Europe—Continued.										
Netherlands.....	342	646	698	1,259	2,097	216	234	209	165	108
Northern Ireland.....	116	119	171	88	90	245	242	168	158	75
Norway.....	287	427	635	527	488	617	580	506	455	276
Poland.....	869	1,212	2,403	3,072	702	442	422	400	315	81
Portugal.....	313	301	374	422	448	599	186	187	283	448
Rumania.....	244	349	346	421	333	277	180	152	126	83
Soviet Russia.....	82	97	63	59	40	172	197	108	112	114
Spain.....	299	315	379	257	259	665	256	132	133	447
Sweden.....	196	341	385	342	518	1,085	731	976	567	437
Switzerland.....	266	462	617	1,237	1,211	235	160	171	163	119
Yugoslavia.....	435	632	1,019	1,090	652	425	335	290	302	192
Other Europe.....	261	356	540	753	465	73	84	77	78	95
Asia.....	721	1,065	2,376	2,162	1,913	2,979	2,826	1,665	1,627	2,368
China.....	273	293	613	642	643	1,648	1,808	672	524	998
Japan.....	91	132	93	102	102	851	763	726	804	1,078
Palestine.....	180	369	1,291	1,066	850	145	60	70	62	66
Syria.....	93	136	227	207	111	53	31	47	42	29
Other Asia.....	84	135	152	145	207	282	164	150	195	197
Canada.....	8,018	11,799	14,070	10,501	10,806	1,272	1,027	1,018	965	769
Newfoundland.....	103	212	334	312	272	88	82	58	69	35
Mexico.....	1,716	2,347	2,502	2,640	2,313	5,218	3,745	3,667	5,117	4,584
West Indies.....	985	1,322	2,110	2,231	2,675	1,788	1,379	1,919	1,453	1,300
Central America.....	470	484	582	530	639	465	376	453	425	470
South America.....	492	738	885	915	1,115	1,576	745	980	922	1,004
Africa.....	105	155	174	218	202	109	138	97	101	93
Australia.....	118	106	179	159	156	115	142	88	66	126
Other countries.....	121	153	188	192	211	2,540	2,018	2,080	2,136	1,569

The numbers of immigrant aliens admitted and the numbers of emigrant aliens departed, by years, from 1936 to 1940, and by race or people, are recorded in table 3.

TABLE 3.—Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by race or people

Race or people	Immigrant					Emigrant				
	1936	1937	1938	1939	1940	1936	1937	1938	1939	1940
All races.....	36,329	50,244	67,895	82,998	70,756	35,817	26,736	25,210	26,651	21,461
Armenian.....	163	172	226	193	181	27	13	5	10	7
Bohemian and Moravian.....	105	165	269	264	188	133	82	56	41	22
Bulgarian, Serbian, and Montenegrin.....	172	301	431	397	276	201	185	114	195	117
Chinese.....	42	59	90	124	106	1,605	1,779	661	498	941
Croatian and Slovenian.....	351	365	506	457	292	148	114	141	107	33
Cuban.....	224	356	457	558	548	761	511	940	611	518
Dalmatian, Bosnian, and Hercegovinian.....	54	75	84	73	44	54	35	43	16	12
Dutch and Flemish.....	581	747	809	758	1,087	386	343	362	300	208
East Indian.....	9	1	2	3	143	91	95	125	114	114
English.....	3,610	4,912	5,733	5,076	4,889	3,768	3,093	2,670	2,416	1,792
Filipino.....	48	50	56	56	55	2,414	1,937	2,000	2,057	1,483
Finnish.....	131	266	459	439	298	319	267	242	201	240
French.....	1,635	2,249	2,815	2,214	2,363	900	682	668	604	669
German.....	4,689	6,324	7,743	5,524	3,556	4,311	2,760	2,508	4,483	2,225
Greek.....	1,002	1,004	1,130	992	1,049	842	406	477	493	280
Hebrew.....	6,252	11,352	19,736	43,450	36,945	308	232	255	176	150
Irish.....	1,556	2,276	3,332	2,968	2,548	1,613	1,245	1,039	1,013	495
Italian.....	7,116	7,652	8,383	6,708	5,512	2,198	1,877	1,871	1,929	1,617
Japanese.....	62	93	43	57	48	824	740	723	781	1,052

TABLE 3.—Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by race or people—Continued

Race or people	Immigrant					Emigrant				
	1936	1937	1938	1939	1940	1936	1937	1938	1939	1940
Korean.....	2	6	1	3	2	27	29	16	29	9
Lithuanian.....	96	136	229	131	99	103	103	107	40	28
Magyar.....	500	663	934	614	561	259	176	118	171	155
Negro.....	272	275	397	304	315	502	433	422	337	283
Polish.....	489	732	1,109	868	467	443	413	409	322	93
Portuguese.....	336	316	433	509	516	651	212	242	333	470
Rumanian.....	97	117	153	98	102	237	160	149	118	73
Russian.....	367	512	666	840	671	231	228	129	158	172
Ruthenian (Russniak).....	72	134	200	198	118	5	7	4	7	1
Scandinavian (Norwegians, Danes, and Swedes).....	914	1,392	1,973	1,563	1,514	2,024	1,642	1,813	1,270	942
Scotch.....	1,473	2,208	2,478	1,968	1,946	1,614	1,292	1,104	829	487
Slovak.....	762	1,346	2,344	991	349	429	238	253	168	81
Spanish.....	451	442	547	428	435	855	397	279	252	582
Spanish American.....	663	817	857	826	922	1,668	784	1,123	1,042	1,117
Syrian.....	171	226	340	282	193	86	49	62	65	50
Turkish.....	43	36	61	34	18	69	42	48	43	78
Welsh.....	120	144	127	134	105	123	127	100	77	38
West Indian (except Cuban).....	153	227	394	292	166	214	164	243	224	228
All other ¹	1,308	1,802	1,902	2,145	1,801	5,097	3,669	3,571	4,975	4,471
²	247	286	444	460	468	225	179	148	135	128

¹ Chiefly natives of Mexico.² Albanian, Estonian, Latvian, Persian, Pacific Islander, etc.

In table 4 the sex, age groups, marital status, and principal occupations of immigrant aliens admitted and emigrant aliens departed are reported for 1936 to 1940.

It will be noted that in 1939 and 1940 the numbers of professional and commercial immigrants admitted were larger than in the other years included in this table.

TABLE 4.—Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by sex, age groups, marital status, and principal occupations

Sex, age, etc.	1936	1937	1938	1939	1940
Immigrants admitted.....	36,329	50,244	67,895	82,998	70,756
Sex:					
Male.....	14,776	21,664	29,959	39,423	33,460
Female.....	21,553	28,580	37,936	43,575	37,296
Age: ¹					
Under 16 years.....	6,925	8,326	10,181	12,204	9,602
16 to 21 years.....	4,923	6,998	10,017	10,281	7,140
22 to 29 years.....	8,634	12,590	16,912	16,874	15,131
30 to 37 years.....	6,651	9,475	13,076	16,294	16,724
38 to 44 years.....	3,183	4,844	7,063	10,786	6,031
45 years and over.....	6,013	8,011	10,646	16,559	16,128
Marital status:					
Single.....	17,775	24,876	34,942	38,378	29,082
Married.....	16,373	22,612	29,314	39,853	37,608
Widowed.....	1,909	2,350	3,019	3,841	3,278
Divorced.....	272	406	620	926	788
Occupation:					
Professional.....	2,588	4,162	5,463	7,225	6,679
Commercial.....	1,904	3,655	5,813	10,268	8,773
Skilled.....	3,936	6,007	8,607	10,231	8,838
Servants.....	1,944	3,213	5,919	5,420	2,470
Laborers.....	1,420	2,118	2,817	2,270	2,193
Miscellaneous.....	1,547	2,292	3,264	3,110	2,394
No occupation ²	22,990	28,797	36,012	44,474	39,409

See footnotes at end of table.

TABLE 4.—*Immigrant aliens admitted and emigrant aliens departed, years ended June 30, 1936 to 1940, by sex, age groups, marital status, and principal occupations—Continued*

Sex, age, etc.	1936	1937	1938	1939	1940
Emigrants departed.....	35,817	26,736	25,210	26,651	21,461
Sex:					
Male.....	21,778	16,434	15,417	16,600	13,777
Female.....	14,039	10,302	9,793	10,051	7,684
Age: ¹					
Under 16 years.....	2,650	1,927	1,609	1,381	994
16 to 21 years.....	1,661	1,173	1,096	1,502	986
22 to 29 years.....	6,731	4,480	4,007	4,072	4,100
30 to 37 years.....	8,743	6,346	6,032	6,030	6,200
38 to 44 years.....	5,347	4,070	3,913	4,443	4,100
45 years and over.....	10,685	8,740	8,553	9,223	5,081
Marital status:					
Single.....	15,419	11,616	10,798	10,952	8,689
Married.....	18,474	13,483	12,820	13,961	11,430
Widowed.....	1,787	1,539	1,438	1,550	1,212
Divorced.....	137	98	154	188	130
Occupation:					
Professional.....	1,825	1,426	1,502	1,709	1,674
Commercial.....	1,819	1,322	1,121	1,180	1,118
Skilled.....	4,195	3,211	3,220	3,508	2,728
Servants.....	2,770	2,046	1,700	1,528	661
Laborers.....	9,285	6,801	6,606	7,229	5,895
Miscellaneous.....	1,860	1,419	1,162	1,409	1,367
No occupation ²	14,063	10,511	9,899	10,088	8,018

¹ Age groups for 1940 changed to under 16, 16 to 20, 21 to 30, 31 to 40, 40 to 45, and 45 and over, in this order.
² Chiefly women and children, and men of advanced age.

Quotas Allotted, by Countries

Table 5 shows the annual quotas allotted the different countries.

TABLE 5.—*Annual quotas allotted under 1924 immigration law, by countries or region of birth*

Nationality or country of birth	Annual quota	Nationality or country of birth	Annual quota
All countries.....	153,774	Ireland (Eire).....	17,853
Albania.....	100	Italy.....	5,802
Belgium.....	1,304	Latvia.....	236
Bulgaria.....	100	Lithuania.....	386
Czechoslovakia.....	2,874	Luxemburg.....	100
Danzig, Free City of.....	100	Netherlands.....	3,153
Denmark.....	1,181	Norway.....	2,377
Estonia.....	116	Poland.....	6,524
Finland.....	569	Portugal.....	440
France.....	3,086	Rumania.....	377
Germany.....	27,370	Soviet Union.....	2,712
Austria.....		Spain.....	252
Great Britain and Northern Ireland:		Sweden.....	3,314
England.....	65,721	Switzerland.....	1,707
Northern Ireland.....		Yugoslavia.....	845
Scotland.....		Other Europe.....	1,500
Wales.....		Asia.....	11,649
Greece.....	307	American colonies.....	(1)
Hungary.....	869	Other quota regions.....	1,850

¹ Quota for colonies, dependents, or protectorates included with allotments for the European country to which they belong.

Deportations

The number of aliens deported from the United States, by years, from 1936 to 1940, and by principal causes, are shown in table 6.

TABLE 6.—*Aliens deported from the United States during years ended June 30, 1936 to 1940, by principal classes, countries, races or peoples, and sex*

Classes, destination, race or peoples, and sex	1936	1937	1938	1939	1940
Number deported.....	9, 195	8, 829	9, 275	8, 202	6, 954
Classes:					
Criminals.....	1, 727	1, 603	1, 662	1, 638	1, 514
Violators of narcotic laws.....	154	118	81	82	91
Anarchists and kindred classes.....	47	17	8	1	.....
Immoral classes.....	407	308	318	270	164
Mental or physical defectives.....	533	392	401	326	362
Previously debarred or deported.....	1, 048	1, 000	1, 085	1, 056	1, 053
Remained longer than authorized.....	850	792	748	652	563
Entered without valid visa.....	3, 181	3, 294	3, 545	3, 080	2, 474
Unable to read (over 16 years of age).....	502	550	676	453	331
Under Chinese Exclusion Act.....	53	47	30	21	21
Likely to become public charges.....	50	40	24	22	13
Miscellaneous.....	643	758	697	601	388
Destination:					
Czechoslovakia.....	68	78	40	17	2
Germany.....	176	150	120	172	41
Great Britain and Northern Ireland.....	335	251	297	228	202
Greece.....	165	109	144	131	114
Irish Free State.....	64	53	43	42	23
Italy.....	495	449	391	320	228
Norway.....	50	55	79	39	28
Poland.....	80	68	73	52	10
Portugal.....	89	75	67	53	35
Yugoslavia.....	105	83	38	54	68
Other Europe.....	385	277	282	213	255
China.....	151	134	134	85	100
India.....	51	50	63	69	61
Japan.....	68	62	56	38	32
Other Asia.....	44	25	12	23	19
Canada.....	1, 784	1, 833	1, 941	1, 915	1, 503
Mexico.....	4, 660	4, 764	5, 113	4, 415	3, 902
Cuba.....	70	56	63	80	63
British West Indies.....	114	67	88	91	78
Other America.....	165	140	160	111	133
Other countries.....	76	50	71	54	57
Races or peoples:					
Chinese.....	151	140	135	84	100
English.....	652	672	715	670	538
French.....	539	492	449	427	371
German.....	298	263	263	281	121
Greek.....	169	124	155	139	146
Hebrew.....	107	109	84	103	78
Irish.....	365	323	354	336	257
Italian.....	535	490	456	361	270
Scandinavian.....	152	155	190	131	104
Scotch.....	291	292	308	277	220
All others.....	5, 936	5, 769	6, 186	5, 343	4, 749
Male.....	8, 155	7, 943	8, 344	7, 385	6, 309
Female.....	1, 040	886	931	817	645

Naturalization Statistics

Section 8 of the basic Naturalization Act of June 29, 1906, provides that no alien shall be naturalized who cannot speak the English language, unless physically unable to do so. The only exception to this requirement is made in the case of declarants who take up Government homesteads. The alien who files his petition for citizenship must sign his petition in his own handwriting. However, there is no requirement of law that the alien sign his declaration of

intention, and, under the regulation, the declaration may be signed by mark if the declarant is unable to write. The principal law governing racial limitation of naturalization in this country permits naturalization in the case of aliens who are free white persons, and in the case of aliens of African nativity and of persons of African descent.¹ Certain other aliens who are World War veterans may also become citizens.

The number of naturalization certificates for the 6 fiscal years, 1936 to 1940, is shown in table 7, by countries of former allegiance.

TABLE 7.—*Aliens naturalized (certificates of naturalization issued) during years ended June 30, 1936 to 1940, by countries of former allegiance and sex*

Country	1936	1937	1938	1939	1940
Number naturalized.....	141,265	164,976	162,078	188,813	235,260
Albania.....	164	197	195	223	280
Belgium.....	708	723	745	917	1,082
British Empire.....	42,231	44,528	42,106	47,500	59,680
Bulgaria.....	175	177	256	310	364
Czechoslovakia.....	4,771	6,090	6,158	7,848	9,059
Danzig, Free City of.....	80	44	58	53	51
Denmark.....	1,486	1,404	1,365	1,440	1,874
Estonia.....	89	105	91	95	116
Finland.....	1,206	1,664	1,713	2,047	2,610
France.....	1,111	1,334	1,227	1,625	2,104
Germany { Austria.....	2,274	2,973	19,312	19,940	25,802
Germany { Germany.....	19,622	20,092			
Greece.....	2,015	2,639	2,625	3,540	4,378
Hungary.....	2,352	3,168	3,168	4,347	6,291
Italy.....	17,781	23,534	26,306	31,933	37,357
Latvia.....	293	356	369	379	574
Lithuania.....	2,147	2,168	2,140	2,986	3,809
Luxemburg.....	59	71	84	68	105
Netherlands.....	1,368	1,627	1,656	1,955	2,618
Norway.....	2,307	2,617	2,848	2,810	3,413
Poland.....	14,745	19,013	18,356	21,585	26,964
Portugal.....	1,304	1,476	1,686	2,725	2,889
Rumania.....	1,918	2,560	2,466	2,955	3,935
Soviet Russia.....	7,836	10,604	11,189	11,499	15,598
Spain.....	837	1,262	1,348	1,955	2,271
Sweden.....	4,413	4,433	4,112	4,718	5,746
Switzerland.....	1,169	1,265	1,216	1,397	1,735
Yugoslavia.....	3,525	4,453	4,365	5,916	6,908
Other Europe ¹	13	17	17	23	10
Iran (Persia).....	78	113	143	163	170
Palestine.....	55	64	49	45	89
Syria.....	502	488	567	735	873
Turkey.....	1,117	1,336	1,585	1,938	2,140
Other Asia ¹	195	292	162	125	114
Mexico.....	623	903	1,082	1,643	2,660
West Indies ¹	184	286	303	415	472
Central America ¹	91	129	144	175	226
South America ¹	322	392	447	476	563
Africa ¹	28	46	29	46	44
Philippine Islands.....	71	333	390	263	277
Sex— { Male.....	86,777	97,696	92,041	113,934	132,406
Sex— { Female.....	54,488	67,280	70,037	74,879	102,854

¹ Independent countries or regions.

¹ U. S. Code 1934, tit. 8, sec. 359, Supp. V to Code 1934, sec. 392e.

From the close of the fiscal year 1923 to the close of the fiscal year 1940, the number of persons naturalized was 2,939,190. The highest percentages reported for any nationality or country of origin were 21.5 percent, British Empire; 17.5 percent, Italy; 13.4 percent, Poland; and 11.0 percent, Germany, as recorded in table 8.

TABLE 8.—*Number and percent of aliens naturalized during years ended June 30, 1923 to 1940, by country of origin or nationality*

Country	Number naturalized	Percent of total	Country	Number naturalized	Percent of total
All countries.....	2,939,910	100.0	Mexico.....	9,321	0.3
Belgium.....	13,948	.5	Netherlands.....	27,932	1.0
British Empire.....	632,035	21.5	Norway.....	46,496	1.6
Bulgaria.....	3,821	.1	Poland.....	393,453	13.4
Czechoslovakia.....	114,060	3.9	Portugal.....	18,543	.6
Denmark.....	27,383	.9	Rumania.....	57,118	1.9
Finland.....	24,575	.8	Soviet Russia.....	220,915	7.5
France.....	20,574	.7	Spain.....	14,843	.5
Germany.....	324,672	11.0	Sweden.....	77,268	2.6
Greece.....	71,940	2.4	Switzerland.....	22,719	.8
Hungary.....	70,160	2.4	Turkey.....	41,741	1.4
Italy.....	512,463	17.5	Yugoslavia.....	77,103	2.6
Lithuania.....	31,008	1.1	Central and South America.....	7,398	.3
			All other.....	78,421	2.7



Registration of Aliens

The most far-reaching legislation affecting aliens ever enacted in the United States is the Alien Registration Act of 1940.¹ This act strengthens the law relating to their admission and deportation. At the time President Roosevelt signed this act, a statement was issued by him declaring that it should be interpreted and administered as a "program designed not only for the protection of the country but also for the protection of the loyal aliens who are its guests." He pointed out also that the registration and identification of the "aliens who are now within our borders does not carry with it any stigma or implication of hostility toward those who, while they may not be citizens, are loyal to this country and its institutions."

Under the provisions of the Alien Registration Act, 4,912,817 (preliminary) aliens registered.² This figure includes the following:

Continental United States.....	4,741,971
Registrations at consular offices.....	22,677
Alien seamen.....	47,658
Alaska.....	317
Hawaii.....	85,080
Puerto Rico.....	14,106
Virgin Islands.....	1,008

The alien registrations in each of the 48 States are reported in the accompanying table.

¹ 54 U. S. Stat. L. 670.

² United States Department of Justice. Press releases, Washington, Jan. 10, 13, and 14, 1941.

Number of aliens registered in continental United States, through Jan. 10, 1941

Geographic division and State	Total registered	Geographic division and State	Total registered
All divisions	4, 741, 971	South Atlantic division—Con.	
New England division	651, 740	Maryland	36, 446
Connecticut	152, 664	North Carolina	5, 331
Maine	45, 597	South Carolina	5, 725
Massachusetts	356, 028	Virginia	9, 729
New Hampshire	29, 485	West Virginia	23, 295
Rhode Island	52, 339	East South Central division	17, 876
Vermont	15, 627	Alabama	4, 952
Middle Atlantic division	1, 845, 070	Kentucky	4, 902
New Jersey	270, 973	Mississippi	3, 003
New York	1, 212, 622	Tennessee	5, 019
Pennsylvania	361, 475	West South Central division	230, 932
East North Central division	921, 477	Arkansas	3, 210
Illinois	319, 385	Louisiana	16, 601
Indiana	42, 220	Oklahoma	6, 671
Michigan	290, 730	Texas	204, 450
Ohio	196, 214	Mountain division	111, 150
Wisconsin	72, 928	Arizona	30, 699
West North Central division	176, 288	Colorado	26, 689
Iowa	24, 015	Idaho	5, 936
Kansas	16, 180	Montana	13, 639
Minnesota	58, 584	Nevada	6, 219
Missouri	42, 049	New Mexico	12, 123
Nebraska	18, 601	Utah	10, 100
North Dakota	9, 902	Wyoming	5, 745
South Dakota	6, 957	Pacific division	643, 440
South Atlantic division	143, 998	California	526, 937
Delaware	6, 294	Oregon	33, 859
District of Columbia	19, 111	Washington	82, 644
Florida	38, 218		
Georgia	4, 849		



Legislation Regulating Employment of Aliens ¹

Federal Legislation

In the United States, Federal legislation regulating the employment of aliens relates chiefly to employment by the Federal Government and its agencies, or by contractors performing work for the Government. The following kinds of employment are covered:

Public contracts.—By the provisions of an act of July 2, 1926, an alien employed by a contractor who is furnishing or constructing aircraft or aircraft parts or aeronautical accessories for the United States, may not be permitted to have access to the plans, specifications, or the work under construction or to participate in the contract trials without the written consent of the Secretary of the Department concerned. The recently enacted National Defense Act, approved on June 28, 1940, contains similar provisions in relation to the performance of secret, confidential, or restricted Government contracts. Violation of the provisions of the latter act is punishable by a fine of up to \$10,000 or imprisonment up to 5 years, or both. Punishment is also provided for an alien who obtains such employment by a willful misrepresentation of his alien status.

¹ From Monthly Labor Review for August 1940, with later data.

Seamen.—An early act provides that all officers of vessels of the United States who have charge of a watch, including pilots, must be American citizens. A later act requires that all licensed officers of vessels documented under the laws of the United States must be citizens. Citizenship is required of the entire crew of a cargo vessel and of 90 percent of the crew of a passenger vessel for which construction or operating subsidies have been granted. Another act provides that on United States vessels all licensed officers and pilots, as well as 75 percent of the crew, must be American citizens, unless the Secretary of Commerce finds that qualified citizen seamen are not available.

Public employment.—The Emergency Relief Acts of 1941 and 1942 provide that no alien shall be given employment or continued in employment on any work project. Every employee must make an affidavit that he is a citizen of the United States.

In the civil service of the United States employees are required to be citizens or, to "owe allegiance to the United States." Unless specifically forbidden by statute, however, Government departments and agencies may employ aliens in non-civil-service positions. In the 1941 Labor-Federal Security Appropriation Act, also, a limited number of interpreters who are not citizens may be hired in the Immigration and Naturalization Service under certain conditions.

The same act and the 1941 appropriations acts for the various other Government departments and offices, as well as for the District of Columbia, prohibit the employment of aliens by those departments in the continental United States, except that persons already employed who have filed a declaration of intention to become citizens, or who owe allegiance to the United States, may retain their positions. The Military Appropriations Act and the War Department Civil Appropriation Act limit civilian employment in the Canal Zone in skilled, technical, administrative, executive, or supervisory capacity to citizens of the United States or of the Republic of Panama.

Registration of aliens.—The Federal Alien Registration Act of 1940 requires the registration of all aliens and the fingerprinting of all aliens 14 years of age and over.

State Legislation

In practically every State, laws have been passed barring aliens from certain occupations or otherwise discriminating against them. In employment on public works, particularly, such provisions have been upheld by the courts on the ground that governments may employ or refuse to employ whomsoever they wish. Generally, the State laws grant preference to citizens in employment on public works, but in some cases preference is limited to residents of the State.

In approximately 10 States (such as Kentucky, Michigan, New York, South Dakota, and Virginia), architects must either be American citizens or have filed a declaration of intention. About the same number of States have similar requirements for engineers and surveyors, as in Nevada, New Jersey, New York, North Carolina, and Wyoming. In several of the mining States, principally Arkansas, Colorado, Illinois, Kansas, Montana, Pennsylvania, Utah, West Virginia, and Wyoming, supervisory employees (in mines) must be citizens. In a few States citizenship is required of certain salesmen (Michigan, New Jersey, Pennsylvania, Wyoming) and peddlers

(Georgia, New Hampshire, Massachusetts, Pennsylvania). Other occupations and professions that have a citizenship requirement include teachers, optometrists, barbers, undertakers, detectives, and insurance officers and agents.



Restriction on the Employment of Aliens ¹

The employment of aliens in private industry on Government contracts is restricted by law. "In the manufacture of aircraft and parts for the Government and 'in the performance of secret, confidential or restricted Government contracts,' no alien 'may be permitted to have access to the plans or specifications or the work under construction or to participate in the contract trials without the written consent beforehand' of the Secretary of the Government department concerned."

Possibly under the impression that the legal restrictions are more extensive than they are, employers have gone far beyond the legal requirements.

Table 1 is based on data from 11,954 establishments employing 3,133,648 workers. Of the industries listed in this tabulation, citizenship is required legally only in "aircraft and parts." However, certain individual plants making "professional and scientific instruments" and certain types of machinery might also be covered by the law. As may be noted from the table, the citizenship requirement is far more extensive than this.

TABLE 1.—*Citizenship as a requirement for employment in selected defense industries in hirings anticipated for period Nov. 1, 1940, to Jan. 1, 1941* ¹

Industry	Employers' estimate of number of "hires" to take place, Nov. 1 to Jan. 1	Per cent of "hires" requiring citizenship	Industry	Employers' estimate of number of "hires" to take place, Nov. 1 to Jan. 1	Per cent of "hires" requiring citizenship
Fireworks.....	222	100.0	Nonferrous metal foundries (excluding aluminum).....	350	68.3
Aircraft and parts ²	39,847	99.9	Fabricated plastic products (n. e. c.).....	159	59.1
Motorcycles, bicycles, and parts.....	290	99.3	Iron and steel.....	11,910	58.1
Industrial chemicals.....	5,404	94.7	Industrial rubber goods.....	626	57.7
Petroleum refining.....	1,400	94.5	Lighting fixtures.....	372	40.1
Ship and boat building.....	6,903	94.1	Railroad equipment.....	2,111	32.2
Automobiles and auto equipment.....	9,079	93.5	Models and patterns (excluding paper patterns).....	112	31.3
Primary alloying and rolling and drawing of nonferrous metals (excluding aluminum).....	331	93.4	Pressed or blown glassware (n. e. c.), scientific, technical, industrial, etc.....	141	26.2
Electrical machinery.....	7,128	88.7	Hardwood distillation, charcoal, and naval stores.....	327	19.6
Aluminum products (including rolling and drawing).....	382	86.9	Surgical supplies, equipment and orthopedic appliances.....	50	4.0
Machinery (excluding electrical).....	16,404	76.9	Other.....	66	-----
Professional and scientific instruments, photographic apparatus, and optical goods.....	564	69.1			

¹ As reported by 11,954 employers.

² Includes data from one employer of 14,000 workers, who indicated he would require 20,350 workers for the 12-month period beginning October 1940, all of whom would require citizenship.

³ From the Monthly Labor Review for July 1941. Data are from United States, Federal Security Agency, Social Security Board, Bureau of Employment Security; Labor Shortages and the Restriction of Employment to Citizen Workers, Washington, 1941.

In general, a survey of the State employment office reports shows citizenship requirements are extensive in all industrialized areas. Throughout New England, in the tier of industrialized States from New York and New Jersey west through Wisconsin, and on the Pacific coast, citizenship was generally specified in both defense and nondefense industries. In other words, the restrictions are operating precisely in those areas which have the greatest proportion of aliens and naturalized citizens and which are experiencing the greatest demand for labor, and where the supply of labor in certain occupations is approaching exhaustion. In the South, in the midwestern agricultural States, and in the Rocky Mountain area, where the number of aliens and naturalized citizens is relatively small, there has been no special emphasis on citizenship.

The specifications of employers go much farther than the requirement for citizenship, in some cases demanding that both parents be American born. In Connecticut some establishments will hire naturalized citizens except naturalized Italians or Germans, but will not hire first-generation American workers of Italian or German extraction. In September 1940 Massachusetts reported that citizenship was a requirement for hiring by many employers even when they were not engaged in defense production.

Table 2 gives the estimated number of alien gainful workers in the United States in 1940. Excluding those who were 65 years of age and over, the number of noncitizens gainfully occupied was 1,983,000, of whom 1,715,000 were males.

TABLE 2.—*Estimated alien population 10 years of age and over, by sex and by number gainfully occupied, 1940*

Sex	Number of aliens 10 years of age and over	Number of gainfully occupied aliens		
		All ages	Under 65 years	Under 60 years
Total aliens.....	4,668,000	2,322,000	1,983,000	1,751,000
Males.....	2,497,000	2,022,000	1,715,000	1,505,000
Females.....	2,171,000	300,000	268,000	246,000

Income, Production, and Occupation Statistics

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 Edition.

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National Income, 1919 to 1940

Expansion of Income

The national income of the United States in 1940, as estimated by the United States Department of Commerce, was \$76,035,000,000—more than \$5,000,000,000 above the total in 1939.¹ The increase in the national income in 1940 was mainly in the latter half of the year and was an accompaniment of the national defense program. The uncertainties and disturbances abroad and the exigencies of national defense at home brought about a halt in the comparatively rapid expansion of nondurable-goods, consumer-goods, and service industries but ultimately created a powerful stimulus to the expansion of wartime exports and defense industries. Exports of such goods as heavy iron and steel, nonferrous metals, metalworking machinery, aircraft, firearms, and chemicals more than doubled in 1940 as compared to 1939, and 55 percent of these exports were in the second half of 1940. Defense expenditures also more than doubled.

The total national income in 1940 was 7.6 percent greater than in 1939, 90.1 percent greater than in 1932, and 8.8 percent smaller than in 1929; but these figures do not take into account the significant changes in price levels. It is estimated that real income, as computed by adjusting the dollar values to price changes, was 11 percent larger in 1940 than in 1929 and 60 percent larger in 1939 and 1940 than 20 years earlier. In 1940, real income per capita was above the 1929 peak of per capita income.²

Nature and Components of the National Income Total

Estimates of national income vary in some degree with the definition of income, with the data incorporated in the estimates, and with the methods of computation. The concept of national income embodied in the estimates of income made by the Department of Commerce is defined by that agency as follows:

National income is the measure of the value of the net output of commodities and services produced by the private and public enterprises of the economy. It

¹U. S. Department of Commerce. *Survey of Current Business*, June 1941: National Income Exceeds 76 Billion Dollars in 1940, by Milton Gilbert and Dwight B. Yntema. This article gives revised figures for earlier years. Significant revisions have been made possible by use of the figures of the Census of Manufactures for 1939, especially for the adjustment of pay-roll data. Some of the industrial censuses for 1939 have also called for revisions of income data. The components of national income have undergone some revisions as a result of transfers, notably the shifting of shipbuilding from the construction to the manufacturing group of industries. Data recently available from the Bureau of Internal Revenue made possible improved estimates of entrepreneurial income. Estimates for the years 1919 to 1929 made by the National Bureau of Economic Research were linked to the Department of Commerce estimates on the basis of the 1929 relationships. The income data as here presented are summarized from an article in the *Monthly Labor Review* for July 1941 on National Income 1919 to 1940.

²The use of price and cost-of-living indexes for adjustment of the income figures presents serious difficulties and the resulting estimates of real income are rough approximations. The methods used by the Department of Commerce are described in the *Survey of Current Business* for June 1941, p. 12, footnote 3.

includes the economic activities carried on by all producing entities—corporations, partnerships, individual enterprises, and governmental agencies. In practice, the development follows industrial lines so that measures are at once provided for the segments of the national income that originate in each of the several broad industry groups such as agriculture, mining, trade, etc. The measure is net in the sense that the value of materials and supplies and of plant and equipment consumed in the process of production is deducted from the gross value of goods and services produced in order to obtain the value of net production.

The private and public enterprises utilize personal services and capital provided by individuals, who thus both contribute to the productive process and share in the division of the net product. The net product is represented by returns in the form of salaries and wages, net income of business enterprises, interest, and rents and royalties. Salaries and wages, supplements to salaries and wages, interest, and net rents and royalties are conceived as paid out by enterprises. Net incomes of businesses, on the other hand, are transferred only to the extent that dividend payments are made by corporations and withdrawals are made by owners of unincorporated businesses. The difference between net income and the amount disbursed constitutes business savings, such "savings" being either positive or negative. Income actually disbursed by enterprises plus business savings equals the national income. Thus, the national income is a measure of the net value of goods and services produced and also of the claims to these goods and services.

The concepts of national income as a measure of the net value of goods and services produced and as a measure of the claims to these goods and services are supplemented by another concept described as "income payments to individuals" and used in the monthly income estimates. The Department of Commerce also publishes a series showing annual distributions by States. "Income payments to individuals" may be either larger or smaller than the estimates of national income.³

General Trends, 1919 to 1940

The Department of Commerce has made detailed estimates of national income for the period beginning in 1929. The National Bureau of Economic Research has made somewhat similar estimates for the period going back to 1919. By linking comparable components of the two series on the basis of 1929 relationships, the Department of Commerce has constructed continuous estimates for the period 1919 to 1940 for national income both by industrial origin and by distributive shares.⁴ National income by industrial origin for 1919 to 1940 is given in table 1.

³The Department of Commerce reconciles national income with income payments to individuals as follows: "Deduct (a) pensions and other contributions of employers (under Social Security-Railroad Retirement Board, and governmental employee systems); (b) pension and other contributions of employees (under the systems just noted); and (c) business savings; and add (a) direct relief, including old-age assistance, aid to dependent children, and aid to the blind; (b) Federal pensions to veterans, including payments on adjusted service certificates; (c) governmental retirement allowances; and (d) insurance benefits under unemployment compensation, old-age insurance, and railroad retirement programs."

For the monthly series, see Monthly Income Payments in the United States, 1929-40, by Frederick M. Cone. Revisions and extensions of data in this bulletin were given in Survey of Current Business, July 1941. For data on income payments by States, see Income Payments by States, by Frederick M. Cone, in Survey of Current Business, August 1941.

⁴The term "distributive shares" refers to the shares of income (salaries, wages, dividends, etc.) transferred by business enterprises, which, with "business savings" (either positive or negative), are equal to total national income. The term formerly used for distributive shares as transferred by business enterprises was "Income paid out."

TABLE 1.—National income, by industrial origin, 1919-40¹

[In billions of dollars]

Year	Total	Agriculture	Manufacturing	Construction	Transportation	Trade	Finance	Government	Service	Other
1919.....	67.7	11.1	17.3	1.9	5.8	11.2	5.7	4.7	5.1	4.9
1920.....	69.8	9.1	18.4	2.5	7.1	9.7	6.1	4.7	6.0	6.2
1921.....	52.8	6.3	10.7	1.9	5.7	7.1	6.0	4.8	5.8	4.5
1922.....	60.6	5.9	13.9	2.4	5.8	9.1	6.7	4.9	6.7	5.2
1923.....	70.0	6.7	17.4	3.2	6.5	10.3	7.2	5.3	7.0	6.4
1924.....	70.1	7.3	16.0	3.3	6.4	10.1	7.7	5.2	7.6	6.5
1925.....	74.8	7.7	17.4	3.5	6.7	10.7	8.1	5.4	8.3	7.0
1926.....	76.9	7.3	18.0	3.6	6.9	10.9	8.4	5.6	8.5	7.7
1927.....	76.4	7.2	17.6	3.5	6.7	10.6	8.7	5.9	8.8	7.4
1928.....	80.2	7.3	18.7	3.7	6.8	11.0	9.6	6.1	9.4	7.6
1929.....	83.4	7.3	20.4	3.5	7.1	11.1	9.4	6.3	9.9	8.4
1930.....	69.0	5.6	15.1	2.6	6.2	9.0	8.0	6.5	8.9	7.1
1931.....	54.3	3.7	10.3	1.8	5.0	7.2	6.5	6.5	7.5	5.8
1932.....	40.0	2.6	6.1	.8	3.7	5.1	4.9	6.5	5.7	4.6
1933.....	42.5	3.4	8.2	.5	3.6	5.9	4.4	6.6	5.4	4.5
1934.....	50.3	4.6	10.6	.7	3.8	6.8	4.7	7.6	6.3	5.2
1935.....	55.8	5.3	12.5	.9	4.1	7.5	5.2	7.9	6.8	5.6
1936.....	65.1	6.0	15.2	1.4	4.8	8.6	5.9	9.2	7.7	6.3
1937.....	71.4	6.4	17.5	1.8	5.2	9.6	6.4	9.0	8.6	6.9
1938.....	64.4	5.4	13.3	1.8	4.4	9.0	5.9	9.8	8.3	6.5
1939.....	70.7	5.8	16.4	2.1	5.0	9.6	6.1	9.9	8.3	7.0
1940.....	76.0	6.0	19.2	2.4	5.3	10.1	6.2	10.2	9.8	7.3

¹ Data for 1919-28 derived from estimates prepared by Simon Kuznets (National Income and Capital Formation, 1919-35, National Bureau of Economic Research, Inc., New York, 1937), by linking the industrial components of each distributive share of the Kuznets' figures to comparable elements of the Department of Commerce data on the basis of 1929 relationships.

An outstanding development, as indicated by table 1, is the radical change in the comparative amount of income from different main segments of the economy. Although the national income in 1940 was much larger than in 1919, the income originating in agriculture was reduced from 11.1 to 6.0 billions of dollars. Changes of this nature indicate significant alterations in the national economy.

The national income by distributive shares from 1919 to 1940 is shown in table 2.

TABLE 2.—National income, by distributive shares, 1919-40¹

[In billions of dollars]

Year	Total national income	Compensation of employees		Net income of incorporated businesses		Total net income of unincorporated businesses ²	Interest	Net rents and royalties
		Total	Salaries and wages only	Total	Dividends only			
1919.....	67.7	38.0	37.7	5.9	3.0	18.1	3.0	2.7
1920.....	69.8	44.7	44.4	4.4	3.3	14.4	3.4	2.9
1921.....	52.8	35.6	35.3	.4	3.0	10.2	3.6	3.0
1922.....	60.6	37.6	37.3	4.0	3.0	11.8	3.8	3.4
1923.....	70.0	44.2	43.8	5.3	3.8	12.7	4.2	3.6
1924.....	70.1	43.8	43.4	4.6	3.7	13.5	4.5	3.7
1925.....	74.8	45.8	45.4	6.3	4.4	14.1	4.8	3.8
1926.....	76.9	48.5	48.1	6.3	4.7	13.6	5.0	3.5
1927.....	76.4	48.6	48.2	5.5	5.0	13.7	5.3	3.3
1928.....	80.2	50.1	49.7	7.0	5.3	14.1	5.6	3.4
1929.....	83.4	52.7	52.2	7.2	5.9	14.2	5.9	3.4
1930.....	69.0	47.9	47.4	1.7	5.6	10.7	6.1	2.7
1931.....	54.3	40.3	39.8	-1.6	4.3	7.5	6.0	2.0
1932.....	40.0	31.5	30.9	-3.6	2.7	5.3	5.7	1.2
1933.....	42.5	29.6	28.5	-.6	2.2	7.2	5.1	1.2
1934.....	50.3	34.2	32.4	.6	2.7	8.9	5.2	1.5
1935.....	55.8	37.2	35.4	1.7	2.9	10.1	5.1	1.7
1936.....	65.1	42.6	39.6	3.8	4.7	11.8	5.0	1.9
1937.....	71.4	47.8	44.6	3.9	4.8	12.5	5.0	2.1
1938.....	64.4	44.9	41.1	1.7	3.2	11.0	4.9	1.9
1939.....	70.7	48.1	44.3	3.8	3.8	11.9	4.9	2.0
1940.....	76.0	51.8	48.2	4.8	4.2	12.4	4.9	2.1

¹ See table 1, footnote 1.

² Includes owners' remuneration for personal services.

The fact of greatest significance apparent from table 2 is the large increase in the proportion of the national income distributed as the compensation of employees. Employee compensation was only 56.1 percent of total national income in 1919 but rose to 68.2 percent in 1940. The relative increase in salaries and wages only was also considerable, although less marked, namely, 55.7 percent in 1919 to 63.4 percent in 1940. Compensation of employees includes (table 2) salaries as well as wages and also payments described as supplements to salaries and wages. Some part of the latter is compensation to persons not normally in the employee groups, as for example, payments to farmers for emergency employment to supplement their income from farm operations.

It is apparent, of course, that the increase in the proportion of the national income going to employees was mainly a result of a transformation of the national economy in the direction of large-scale enterprise operated by employed persons as distinguished from small-scale and even family-size farms and business enterprises. This trend is indicated, for example, by estimates for the years 1920 to 1937 of entrepreneurs and self-employed as compared to persons forming the labor supply in the sense of persons employed or normally available for employment.⁵ The estimated number of entrepreneurs and self-employed persons increased from 12,376,000 in 1920 to 13,022,000 in 1937, a decline from 29.2 percent of the gainfully occupied population in 1920 to 23.9 percent in 1937. The estimated labor supply, on the other hand, rose from 29,951,000 in 1920 to 41,447,000 in 1937, an increase from 70.8 percent of the gainfully occupied population in 1920 to 76.1 percent in 1937.

Some of the increase in employee compensation as a proportion of total income was caused by the comparatively large increase of employment in those divisions of the national economy which normally distribute a high proportion of income as employee compensation. This trend is illustrated by some types of service industries and by Government. Income originating in governmental activities formed a much larger proportion of total income in 1940 than in 1919, and 77.5 percent of income ascribed to Government was distributed to wages and salaries, not including work-relief compensation, whereas wages and salaries as a whole were only 63.3 percent of the total national income. The increase in the proportion of total income going to the employed groups was accompanied by a decrease in wages as a percentage of total income originating in certain important and comparatively homogeneous fields of employment, notably manufactures, the minerals industries, and railroad transportation. In these industries wages can be separated from salaries as well as from other income. Wages in 1919 formed 64.6 percent of all income originating in these three fields, and in 1939, only 59.5 percent.⁶

Wages and Salaries, 1929 to 1940

The detailed tabulations for 1929 to 1940 of the study here summarized include estimates of total salaries and wages and the average

⁵ U. S. Work Projects Administration. National Research Project. Labor Supply and Employment: Preliminary Statement of Estimates Prepared and Methods Used (p. 142), by Daniel Carson, assisted by Henrietta Liebman. Washington, 1939. (Mimeographed.)

⁶ U. S. Bureau of Labor Statistics. Monthly Labor Review, September 1940 (pp. 517-544); Wages, Hours, and Productivity of Industrial Labor, 1909 to 1939, by Witt Bowden. (Reprinted as Serial No. R. 1150.)

compensation (salary-wage) of employees by industrial divisions. These estimates for selected years are given in tables 3 and 4.

TABLE 3.—Total salaries and wages of employees by industrial divisions, 1929-40
[In millions of dollars]

Industrial division	1929	1932	1933	1937	1938	1939	1940
Total salaries and wages.....	52,246	30,888	28,490	44,615	41,089	44,349	48,158
Agriculture, total.....	1,284	584	517	794	758	738	745
Mining, total.....	1,602	709	725	1,261	1,063	1,081	1,158
Anthracite.....	257	146	128	123	101	104	101
Bituminous coal.....	636	275	297	534	453	466	515
Metal.....	212	57	57	205	142	157	185
Nonmetal.....	151	68	62	120	95	104	119
Oil and gas.....	346	163	181	279	272	250	238
Manufacturing, total.....	15,870	7,447	7,506	14,076	11,602	13,260	15,218
Food and tobacco.....	1,550	1,017	1,044	1,572	1,544	1,595	1,671
Paper, printing, and publishing.....	1,615	1,063	950	1,420	1,323	1,347	1,432
Textiles and leather.....	2,898	1,528	1,676	2,421	2,139	2,472	2,503
Construction materials and furniture.....	1,811	590	608	1,292	1,079	1,226	1,346
Chemicals and petroleum refining.....	858	526	530	850	797	840	923
Metal and metal products.....	5,947	2,109	2,132	5,658	3,952	4,901	6,360
Miscellaneous and rubber.....	591	270	274	487	407	512	572
Central administrative offices.....	600	344	292	376	361	367	411
Contract construction, total.....	2,947	806	481	1,403	1,402	1,689	1,907
Transportation, total.....	4,939	2,826	2,603	3,825	3,412	3,659	3,838
Steam railroads, Pullman and express.....	3,228	1,685	1,560	2,218	1,961	2,090	2,156
Water transportation.....	472	285	297	507	417	481	522
Motor transportation and public warehouses.....	719	500	435	715	653	700	759
Street railways.....	464	312	268	312	308	312	316
Air transportation.....	6	13	13	24	27	32	43
Pipe lines.....	50	31	30	49	46	44	42
Power and gas, total.....	656	483	450	665	668	671	688
Electric light and power.....	439	512	286	447	449	452	466
Gas.....	217	171	164	218	219	219	222
Communication, total.....	706	534	461	606	610	622	652
Telephone.....	589	458	393	517	530	539	566
Telegraph.....	117	76	68	89	80	83	86
Trade, total.....	8,085	5,117	4,607	6,818	6,576	6,887	7,265
Retail trade.....	4,996	3,162	2,877	4,150	3,967	4,148	4,400
Wholesale trade.....	3,089	1,955	1,730	2,668	2,609	2,739	2,865
Finance, total ¹	2,503	1,898	1,703	2,035	1,961	1,994	2,049
Banking.....	809	617	532	597	605	620	634
Insurance.....	984	838	763	936	920	930	951
Security brokerage and real estate.....	710	443	408	502	436	444	464
Government, total.....	4,950	4,911	4,400	5,657	5,927	6,197	6,698
Federal ²	1,398	1,359	1,222	1,908	1,931	2,078	2,402
State.....	422	466	444	629	683	703	714
City.....	1,136	1,081	908	1,072	1,171	1,182	1,235
County, township, and minor units.....	382	381	336	403	423	454	473
Public education.....	1,612	1,624	1,490	1,645	1,719	1,780	1,874
Service, total.....	6,506	4,136	3,690	5,615	5,371	5,660	5,937
Professional service ³	1,224	1,095	1,010	1,213	1,237	1,265	1,292
Personal service ⁴	2,140	1,313	1,143	1,988	1,912	2,034	2,161
Recreation and amusements ⁵	432	291	259	401	402	436	443
Business service ⁶	456	307	277	381	381	394	414
Miscellaneous and domestic service ⁷	2,254	1,130	1,001	1,632	1,439	1,531	1,627
Miscellaneous, total.....	2,198	1,437	1,347	1,860	1,739	1,891	2,003

¹ Does not include certain miscellaneous financial institutions which have been included in "Miscellaneous."

² Does not include work-relief wages.

³ Includes religious, private educational, curative, legal, accounting, and engineering (consulting) activities.

⁴ Includes hotels, restaurants, laundries, cleaning and dyeing establishments, apartment houses and office buildings, barber and beauty shops, etc.

⁵ Includes motion-picture production and exhibition, radio broadcasting, and other activities primarily providing entertainment.

⁶ Includes advertising agencies, trade associations, chambers of commerce, and other enterprises serving business establishments.

⁷ Includes domestic service and various industries providing services on automobiles, radios, elevators, watches, and other commodities.

The estimates of total salaries and wages (table 3) indicate a smaller total in 1940 than in 1929, but in terms of the purchasing power of the dollar there was a significant increase. The Bureau of Labor Statistics cost-of-living index (given at the end of table 4) was 18.2 percent lower in 1940 than in 1929, whereas the total of salaries and wages was only 7.8 percent smaller in 1940 than in 1929. Noteworthy shifts occurred in the proportions of total salaries and wages in the different industrial divisions. There were sharp declines in combined salaries and wages in agriculture, in contract construction, in transportation (mostly in railroads), and in security brokerage and real estate. Since there was a decline in the total, the increases were less marked than were the reductions, but when the lower cost of living in 1940 is taken into account, most of the industrial divisions, as classified in table 3, show some increase of total employee compensation adjusted by the cost-of-living index.

Estimates are also made of the average compensation of employees by industrial divisions. Compensation per employee is described as "full-time equivalent" compensation.

It should be noted that full-time employment for the year as used herein is an average of the number of persons working in the different reported pay periods of the year. This is not to be confused with the total number of different persons working at some time during the year, nor does it represent the equivalent of employment for the full number of working hours during the reported pay periods or intervening periods.

TABLE 4.—Average salary-wage of employees (full-time equivalent), by industrial divisions, 1929-40

Industrial division	1929	1932	1933	1937	1938	1939	1940
All divisions.....	\$1, 472	\$1, 179	\$1, 089	\$1, 304	\$1, 284	\$1, 318	\$1, 351
Agriculture, total ¹	828	471	434	606	583	588	582
Mining, total.....	1, 492	992	976	1, 269	1, 230	1, 321	1, 326
Anthracite.....	1, 658	1, 377	1, 376	1, 309	1, 232	1, 316	1, 278
Bituminous coal.....	1, 314	741	765	1, 117	1, 081	1, 223	1, 206
Metal.....	1, 631	983	983	1, 434	1, 279	1, 342	1, 412
Nonmetal.....	1, 398	907	827	1, 224	1, 172	1, 209	1, 368
Oil and gas.....	1, 756	1, 552	1, 403	1, 541	1, 591	1, 603	1, 597
Manufacturing, total.....	1, 542	1, 139	1, 065	1, 358	1, 289	1, 347	1, 423
Food and tobacco.....	1, 378	1, 166	1, 080	1, 238	1, 265	1, 274	1, 293
Paper, printing, and publishing.....	1, 835	1, 556	1, 416	1, 585	1, 596	1, 637	1, 661
Textiles and leather.....	1, 239	875	846	997	956	990	1, 006
Construction materials and furniture.....	1, 354	932	869	1, 131	1, 093	1, 117	1, 151
Chemicals and petroleum refining.....	1, 560	1, 322	1, 210	1, 543	1, 572	1, 606	1, 648
Metal and metal products.....	1, 713	1, 147	1, 111	1, 573	1, 422	1, 556	1, 680
Miscellaneous and rubber.....	1, 539	1, 169	1, 092	1, 387	1, 304	1, 380	1, 428
Central administrative offices.....	2, 885	2, 567	2, 454	2, 870	2, 843	2, 867	2, 978
Contract construction, total.....	1, 904	1, 450	1, 116	1, 419	1, 368	1, 423	1, 473
Transportation, total.....	1, 668	1, 370	1, 309	1, 613	1, 613	1, 652	1, 671
Steam railroads, Pullman and express.....	1, 748	1, 459	1, 439	1, 774	1, 848	1, 878	1, 915
Water transportation.....	1, 645	1, 390	1, 314	1, 779	1, 668	1, 781	1, 717
Motor transportation and public warehouses.....	1, 357	1, 050	933	1, 172	1, 114	1, 136	1, 177
Street railways.....	1, 725	1, 537	1, 433	1, 642	1, 692	1, 733	1, 765
Air transportation.....	2, 000	2, 167	2, 167	2, 182	2, 250	2, 286	2, 150
Pipe lines.....	2, 000	1, 722	1, 500	1, 885	1, 917	2, 000	1, 826
Power and gas, total.....	1, 604	1, 429	1, 368	1, 696	1, 753	1, 766	1, 782
Electric light and power.....	1, 614	1, 381	1, 349	1, 726	1, 782	1, 801	1, 827
Gas.....	1, 584	1, 527	1, 402	1, 639	1, 698	1, 698	1, 695

See footnotes at end of table.

TABLE 4.—Average salary-wage of employees (full-time equivalent), by industrial divisions, 1929-40—Continued

Industrial division	1929	1932	1933	1937	1938	1939	1940
Communication, total.....	\$1,357	\$1,328	\$1,225	\$1,485	\$1,544	\$1,563	\$1,590
Telephone.....	1,382	1,371	1,263	1,553	1,611	1,619	1,655
Telegraph.....	1,245	1,118	1,046	1,187	1,212	1,277	1,265
Trade, total.....	1,588	1,315	1,190	1,378	1,390	1,400	1,411
Retail trade.....	1,384	1,153	1,055	1,224	1,227	1,235	1,239
Wholesale trade.....	2,084	1,703	1,511	1,715	1,740	1,757	1,791
Finance, total ²	1,818	1,656	1,595	1,759	1,717	1,726	1,748
Banking.....	1,740	1,719	1,632	1,826	1,850	1,879	1,893
Insurance.....	1,864	1,572	1,502	1,759	1,701	1,706	1,726
Security brokerage and real estate.....	1,849	1,744	1,744	1,635	1,591	1,586	1,622
Government, total.....	1,517	1,466	1,344	1,455	1,507	1,511	1,490
Federal ³	1,622	1,573	1,428	1,603	1,627	1,603	1,493
State.....	1,298	1,280	1,220	1,258	1,262	1,274	1,261
City.....	1,623	1,623	1,457	1,545	1,668	1,680	1,711
County, township, and minor units.....	1,399	1,391	1,273	1,326	1,356	1,343	1,379
Public education.....	1,463	1,374	1,276	1,371	1,445	1,481	1,493
Service, total.....	1,103	881	810	942	943	959	976
Professional service ⁴	1,225	1,128	1,052	1,091	1,090	1,099	1,112
Personal service ⁵	1,241	939	838	1,025	1,031	1,062	1,092
Recreation and amusement ⁶	1,823	1,712	1,560	1,736	1,682	1,690	1,672
Business service ⁷	1,974	1,687	1,539	1,748	1,814	1,850	1,873
Miscellaneous and domestic service ⁸	833	573	531	664	638	647	662
Miscellaneous, total.....	1,462	1,131	1,054	1,296	1,219	1,293	1,326
Memorandum:							
Bureau of Labor Statistics cost-of-living index.....	100.0	79.7	75.4	83.8	82.3	81.1	81.8

¹ Does not include unpaid family labor.

² Does not include certain miscellaneous financial institutions which have been included in "Miscellaneous."

³ Does not include work-relief employees.

⁴ Includes religious, private educational, curative, legal, accounting, and engineering (consulting) activities.

⁵ Includes hotels, restaurants, laundries, cleaning and dyeing establishments, apartment houses and office buildings, barber and beauty shops, etc.

⁶ Includes motion-picture production and exhibition, radio broadcasting, and other activities primarily providing entertainment.

⁷ Includes advertising agencies, trade associations, chambers of commerce, and other enterprises serving business establishments.

⁸ Includes domestic service and various industries providing service on automobiles, radios, elevators, watches, and other commodities.

The average compensation of wage earners and salaried employees was smaller in 1940 than in 1929, as was the total of salaries and wages, the estimate for 1929 being \$1,472, and for 1940, \$1,351. However, as in the case of the total of salaries and wages, this reduction should be viewed in the light of the changes in the cost of living. Such an adjustment indicates a significant increase in average compensation. In a few of the industrial divisions, however, there were such sharp reductions as to more than counterbalance the effect of the lower cost of living. This is true, for example, of anthracite mining and contract construction, the comparatively large reductions in these groups being mainly attributable to reductions of hours and a relatively large increase in part time. In agriculture and in miscellaneous and domestic service, the reductions in average compensation also exceeded the reduction in cost of living, but in these groups the decline in average compensation was more largely a result of the tendency in these groups for rates of pay to fall below the general levels.

Revised Index of Industrial Production ¹

The revised Federal Reserve Board index of industrial production, published in 1940, was designed to provide a broader and more accurate measure of current changes in the physical volume of industrial output. Over a long term of years the revised index indicates that the growth in industrial output of manufactures and minerals has been greater than was apparent from the series previously in use. From 1919 to 1939, the new index shows a 50-percent rise in production, as compared with a 27-percent increase formerly shown for the same period.

Two factors are important in accounting for the differences in rate of expansion between the present index and that which was formerly issued by the Board. In making the revision, weights were given to production in many new and rapidly expanding industries, not previously included, and adjustment was also made for growth in certain other industries which were formerly included in the index but with relatively less weight. In addition, the new index is more adequately weighted for nondurable-goods industries. These industries have contributed most heavily and consistently to national output, not being subject to the extreme fluctuations which characterize durable-goods production.

Typical nondurable manufactures included in the index for the first time are chemicals, rayon, textiles, alcoholic beverages, dairy products, and certain other manufactured foods. Data for pulp and paper production were improved. However, production of certain important durable goods was also included for the first time, notably machinery and furniture. Special upward adjustments were likewise made for nonferrous-metal products and for stone, clay, and glass products, to allow for the long-term movements of industries not directly represented in these groups.

Trends in manufacturing before the national defense program began called for a relatively heavier weighting for nondurable than for durable goods. In recent years the standard of living has tended to rise, bringing about a growing demand for nondurable consumer goods. The demand for durable goods, especially in the field of capital goods, did not keep pace. This, of course, was partly the result of the condition of business, as during the years of depression new investment in capital goods was at a minimum. But the major causes are of a more persistent nature. The slower rate of growth of population and of cities and new communities reduced relatively the need for new durable capital goods. In addition, the improvement in plant facilities and in methods of using them makes for longer usefulness and greater efficiency. For example, machines are being made of better steel; through careful design less material is

¹ Board of Governors of the Federal Reserve System. New Federal Reserve Index of Industrial Production (reprinted from Federal Reserve Bulletin, August 1940); General Indexes of Business Activity, by Frank R. Garfield (reprinted from Federal Reserve Bulletin, June 1940); Measurement of Production, by Woodlief Thomas and Maxwell R. Conklin (reprinted from Federal Reserve Bulletin, September 1940); and later numbers of the Federal Reserve Bulletin, particularly September 1941, containing an account of the second revision of the index of industrial production, and October 1941, giving revisions of the seasonally adjusted figures for separate industries.

The summary here given is from an article in the Monthly Labor Review for November 1940, with revisions and extensions.

required per unit; and the more efficient grouping of machines, coordination of processes, and management of labor have brought about important economies in the use of capital goods.

The revision of the index of production gave added weight to nondurable goods in closer conformity to normal peacetime production. Soon after the revision of the index, however, the national defense program gave a renewed impetus to production in the durable-goods industries, such as machine tools, machinery, ships, and airplane production. The weights of the index as revised in 1940 therefore tended to underemphasize durable-goods production during the intensified period of defense activity. The weight given to durable goods in manufacturing industries for the base period (1935-39) was 44.7 percent, and the weight to nondurable goods, 55.3. These weights are practically identical with the proportions of employment in durable and nondurable goods during the same period. In March 1941, however, durable goods employed somewhat more than half of the total number of workers in manufacturing industries and in terms of man-hours these industries employed considerably more than half of the labor engaged in manufacturing.

Durable goods, during the varied and rapid expansion of the defense program, were somewhat underweighted and not fully represented in the revised index. The durable-goods industries in this period showed a vastly greater expansion than the nondurable-goods industries. In March 1941, the seasonally adjusted index of durable-goods production was 70 percent higher than in the base period (1935-39), and the nondurable-goods index was only 27 percent higher.

The extremely rapid change in the composition of industrial production under the national defense program was in part a result of work carried on by the Government. Production in manufacturing arsenals, quartermaster depots, and shipyards had not been included in the index as computed in 1940. A further revision in 1941 incorporated the output of these rapidly expanding establishments. Another new series of great importance was electric steel. In addition, the revision took account of the shift in the automobile industry from the production of automobiles to defense items, and changes were made in the aircraft series and in three of the non-ferrous metals series. These additions and revisions materially raised the level of the durable-goods index and had some effect also on the index for all manufacturing industries combined. The additional items of production were combined with the series already in the index by means of a special device without recalculating all the weights in the index as revised in 1940.²

As a measure of changes in production preceding the defense program, the revised indexes reveal a highly significant contrast in the trends of durable-goods and nondurable-goods production. The index of industrial production was 3 percent higher in 1937 than in 1929. The same increase occurred in manufacturing production. The index of durable-goods production in 1937 was 8 percent lower than in 1929; in contrast, the nondurable-goods index was 14 percent higher. In 1939, nondurable goods formed a larger proportion of the total than in 1937.

² Federal Reserve Bulletin, September 1941 (p. 880): Revision in the Index of Industrial Production.

The revised index numbers of industrial production are shown in table 1 for specified years 1919 to 1939 and, adjusted for seasonal variation, for June 1939, 1940, and 1941. The indexes are given for industrial production as a whole, and separately for production of manufactures, durable and nondurable goods, and minerals.

TABLE 1.—*Indexes of industrial production, 1919 to June 1941*

[Average 1935-39=100]

Item	1919	1923	1929	1932	1937	1939	June 1939 (adjusted for seasonal variation)	June 1940 (adjusted for seasonal variation)	June 1941 (adjusted for seasonal variation)
Industrial production.....	72	88	110	58	113	108	103	122	159
Manufactures.....	72	86	110	57	113	108	103	122	164
Durable goods.....	84	103	132	41	122	109	99	133	195
Nondurable goods.....	62	72	93	70	106	108	106	114	139
Minerals.....	71	98	107	66	112	106	105	119	133

After the recession of 1938, production as a whole returned by 1939 almost to the level of 1937. Production in many of the consumption-goods industries was notably higher in 1939 than in 1929. This is shown in table 2, which gives the index numbers on the new base for selected industries for the years 1929, 1932, 1937, and 1939, and, adjusted for seasonal variation, for June 1939, 1940, and 1941.

TABLE 2.—*Indexes of industrial production in selected industries, 1929 to June 1941*

[Average 1935-39=100]

Industry	1929	1932	1937	1939	June 1939 (adjusted for seasonal variation)	June 1940 (adjusted for seasonal variation)	June 1941 (adjusted for seasonal variation)
Glass containers.....	75	59	114	110	113	111	155
Textile fabrics.....	101	75	106	110	105	103	151
Cotton consumption.....	105	75	111	110	106	114	160
Rayon deliveries.....	42	46	97	129	131	144	173
Silk deliveries.....	148	131	103	91	81	56	73
Wool textiles.....	97	60	103	108	104	89	163
Carpet-wool consumption.....	120	43	111	108	85	79	149
Apparel-wool consumption.....	90	67	98	104	108	88	190
Woolen yarn.....	96	60	104	98	95	92	151
Worsted yarn.....	93	68	97	119	114	92	178
Woolen and worsted cloth.....	91	63	104	112	112	89	165
Shoes.....	89	77	102	105	105	101	136
Manufactured-food products.....	101	79	103	108	108	115	127
Wheat flour.....	114	100	99	104	105	98	107
Cane-sugar meltings.....	120	94	106	98	93	112	129
Ice cream.....	103	61	109	110	109	113	-----
Butter.....	96	101	96	104	105	106	111
Cheese.....	73	73	98	103	106	111	121
Canned and dried milk.....	82	76	99	108	106	118	132
Meat packing.....	115	108	94	112	109	126	124
Pork and lard.....	143	133	90	124	120	152	134
Beef.....	88	81	97	99	98	101	120
Veal.....	74	74	110	91	89	91	91
Lamb and mutton.....	78	98	98	100	94	99	101
Tobacco products.....	96	79	103	106	108	115	118
Cigars.....	131	89	104	103	103	98	106
Cigarettes.....	76	66	103	110	113	127	131
Manufactured tobacco and snuff.....	110	102	99	100	101	99	97
Pulp.....	81	61	111	116	106	159	175
Paper.....	92	67	107	113	103	128	145
Paperboard containers.....	65	59	105	118	111	128	-----
Newsprint consumption.....	107	79	107	99	98	106	106
Gasoline.....	81	73	105	111	110	110	123
Kerosene.....	90	71	105	110	109	116	104
Tires and tubes.....	135	77	104	111	111	126	152
Anthracite.....	144	98	101	101	89	116	126

These increases are particularly significant in their bearing on the improved condition of wage earners as the largest group of consumers and on the shift of emphasis (before the defense program) from capital goods and durable goods to ordinary consumption goods, for the most part nondurable, in the maintenance of employment and business activity.

In many of these industries (table 2), production per capita was larger in 1939 than in 1929. The total population in 1939 was about 8 percent greater than in 1929. In contrast, the index for rayon deliveries in 1939 was more than 200 percent higher than in 1929, and that for paperboard containers, about 82 percent higher. There were increases ranging between 40 and 50 percent in the indexes for glass containers, cheese, cigarettes, and pulp production. A rise of 30 to 40 percent occurred in the same period for gasoline and for canned- and dried-milk production. The groups with a 20- to 30-percent increase consist of worsted yarn, woolen and worsted cloth, veal, lamb, and mutton, and kerosene.

A number of industries showed decreases in production from 1929 to 1939, as, for example, anthracite, cigars, and silk. Compensatory increases occurred in the production of substitute products—notably, fuel oil and gas, cigarettes, and rayon. Tire and tube production declined, a decrease largely attributable to improved wearing qualities.

Most of the industries that are particularly important in ordinary consumption, such as those in table 2, continued to expand after the outbreak of war in 1939. The increases seem to have been accelerated by the war, but the possibilities of further expansion in these industries, and especially in the production of durable consumer goods, were restricted by the progressive intensification of the defense program requiring diversion of materials and plant facilities. The general effect of the defense program is apparent from table 1. Thus, the production of durable goods increased 97 percent from June 1939 to June 1941, in contrast to a rise of only 31 percent in nondurable goods.



Social-Economic Grouping of Gainful Workers¹

In a report² issued by the Bureau of the Census in 1938 the attempt was made, for the first time, to classify the gainful workers into six main social-economic groups—(1) professional persons, (2) proprietors, managers, and officials, (3) clerks, (4) skilled workers, (5) semiskilled workers, and (6) unskilled workers. The basic data are from the 1930 Census of Occupations.

The report presents detailed tables, by State, city, color, nativity, age, industry, and other factors. The accompanying summary table shows the distribution for the major classifications, by sex.

¹ From the Monthly Labor Review for June 1938.

² U. S. Bureau of the Census. *A Social-Economic Grouping of the Gainful Workers of the United States, 1930*. Washington, 1938.

Gainful workers in the United States classified into social-economic groups, by sex, 1910 to 1930

Sex and group	Number			Percentage distribution		
	1930	1920	1910	1930	1920	1910
Males and females	48,829,920	41,614,248	38,167,336	100.0	100.0	100.0
Professional persons.....	2,945,797	2,050,162	1,632,638	6.0	4.9	4.3
Proprietors, managers, and officials.....	9,665,540	9,180,583	8,579,746	19.8	22.1	22.5
Farmers (owners and tenants).....	6,012,012	6,387,360	6,132,380	12.3	15.3	16.1
Wholesale and retail dealers.....	1,787,047	1,401,849	1,246,077	3.7	3.4	3.3
Other proprietors, managers, and officials.....	1,866,481	1,391,374	1,201,289	3.8	3.3	3.1
Clerks and kindred workers.....	7,949,455	5,704,970	4,326,959	16.3	13.7	10.0
Skilled workers and foremen.....	6,282,687	5,570,602	4,384,060	12.9	13.4	11.4
Semiskilled workers.....	7,877,572	6,638,615	5,512,344	16.3	16.0	14.4
Semiskilled workers in manufacturing.....	4,557,993	4,357,451	3,674,302	9.3	10.5	9.6
Other semiskilled workers.....	3,419,579	2,281,164	1,838,042	7.0	5.5	4.8
Unskilled workers.....	14,008,869	12,469,516	14,251,589	28.7	30.0	37.3
Farm laborers.....	4,392,764	4,186,128	6,205,633	9.0	10.1	16.3
Factory and building-construction laborers.....	3,374,143	3,136,276	2,659,917	6.9	7.5	7.0
Other laborers.....	2,903,065	2,890,738	2,821,526	5.9	6.9	7.4
Servant classes.....	3,338,897	2,256,174	2,564,513	6.8	5.4	6.7
Males	38,077,804	33,064,737	30,001,564	100.0	100.0	100.0
Professional persons.....	1,497,934	1,061,791	913,866	3.9	3.2	3.0
Proprietors, managers, and officials.....	9,150,896	8,757,614	8,183,563	24.1	26.5	27.2
Farmers (owners and tenants).....	5,749,367	6,121,783	5,859,238	15.1	18.5	19.5
Wholesale and retail dealers.....	1,675,193	1,322,075	1,178,049	4.4	4.0	3.9
Other proprietors, managers, and officials.....	1,735,336	1,313,756	1,146,276	4.6	4.0	3.8
Clerks and kindred workers.....	4,877,235	3,511,808	2,744,488	12.8	10.6	9.1
Skilled workers and foremen.....	6,201,542	5,469,048	4,267,327	16.3	16.5	14.2
Semiskilled workers.....	5,448,158	4,375,995	3,326,830	14.3	13.2	11.1
Semiskilled workers in manufacturing.....	2,881,022	2,689,245	2,032,346	7.6	8.1	6.8
Other semiskilled workers.....	2,567,136	1,686,750	1,294,484	6.7	5.1	4.3
Unskilled workers.....	10,893,039	9,888,481	10,655,490	28.6	29.9	35.4
Farm laborers.....	3,746,433	3,382,899	4,679,926	9.8	10.2	15.6
Factory and building-construction laborers.....	3,248,622	2,966,841	2,571,215	8.5	9.0	8.5
Other laborers.....	2,871,744	2,859,343	2,803,596	7.5	8.6	9.3
Servant classes.....	1,026,240	679,398	600,753	2.7	2.1	2.0
Females	10,752,116	8,549,511	8,075,772	100.0	100.0	100.0
Professional persons.....	1,447,863	988,371	718,772	13.5	11.6	8.9
Proprietors, managers, and officials.....	605,644	422,069	396,183	4.7	4.9	4.2
Farmers (owners and tenants).....	262,645	265,577	273,142	2.4	3.1	3.4
Wholesale and retail dealers.....	111,854	79,774	68,028	1.0	.9	.8
Other proprietors, managers, and officials.....	131,145	77,618	55,013	1.2	.9	.7
Clerks and kindred workers.....	3,072,220	2,193,162	1,082,471	28.6	25.7	13.4
Skilled workers and foremen.....	81,145	101,554	96,733	.8	1.2	1.2
Semiskilled workers.....	2,529,414	2,262,620	2,185,514	23.5	26.5	27.1
Semiskilled workers in manufacturing.....	1,676,971	1,668,206	1,641,956	15.6	19.5	20.3
Other semiskilled workers.....	852,443	594,414	543,558	7.9	7.0	6.7
Unskilled workers.....	3,115,830	2,580,835	3,596,009	29.0	30.2	44.5
Farm laborers.....	646,331	803,229	1,525,707	6.0	9.4	18.9
Factory and building-construction laborers.....	125,521	169,435	88,702	1.2	2.0	1.1
Other laborers.....	31,321	31,395	17,930	.3	.4	.2
Servant classes.....	2,312,657	1,576,776	1,963,780	21.5	18.4	24.3

The difficulties inherent in this attempt to classify occupations by social-economic groupings are noted in the report :

A classification of all occupations according to skill, if it could be made, would be very useful; but a complete classification by skill is impossible, since many occupations do not lend themselves to such a classification. Indeed, none of the professional, proprietary, official, managerial, or clerical pursuits lends itself readily to a classification by skill; and it is doubtful whether any of them may be properly so classified, since in none of them is skill or manual dexterity the chief characteristic. In fact, it is believed that only those occupations in which the expenditure of muscular force is an important characteristic can be properly classified by skill. While it is plainly impossible to draw a hard and fast line between those occupations characterized principally by the exercise of muscular force or manual dexterity and those characterized chiefly by the exercise of mental force or ingenuity—or between hand workers and head workers—such a line of demarcation probably may be made sufficiently exact for our purpose.

The grouping of the gainful workers here presented is not based on skill, except in the case of groups 4, 5, and 6, in which most of the occupations may be more or less readily classified by skill.

In the construction of these three groups those occupations are considered skilled for the pursuance of which a long period of training or an apprenticeship is usually necessary, and which in their pursuance call for a degree of judgment and of manual dexterity, one or both, above that required in semiskilled occupations. Those occupations are considered semiskilled for the pursuance of which only a short period or no period of preliminary training is necessary, and which in their pursuance call for only a moderate degree of judgment or of manual dexterity. Unskilled occupations are considered to include those the workers in which usually require no special training, judgment, or manual dexterity, but supply mainly muscular strength for the performance of coarse, heavy work.

Unfortunately, it has not been possible to classify all manual workers as skilled, semiskilled, or unskilled strictly according to the above concepts. In each group of manual workers, certain of the occupations include some workers who would be better classified by skill in one of the other groups. In fact, each of the groups here presented doubtless contains some workers who do not actually belong there, and some workers who have been included principally for want of a more appropriate place for them. In no group, however, are such workers numerous enough to affect the group total materially.

Industrial Disputes

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Handbook of Labor Statistics: 1941 Edition.**

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Statistics of Strikes

The history of statistics on strikes and lock-outs in the United States can be divided into six periods: (1) The years previous to 1880, for which no statistics are available, but for which some summarized accounts of individual strikes have been compiled; (2) the year 1880, when data on strikes and lock-outs were gathered at the time the Tenth Census was taken; (3) 1881-1905, during which time four periodic surveys providing a continuous count of the strikes and lock-outs were made by the Commissioner of Labor; (4) 1906-13, when no studies were made and for which no information is available; (5) 1914-26, when the Bureau of Labor Statistics maintained a fairly adequate reporting service on the number of strikes; in only a limited number of cases, however, were data obtained on number of persons involved, man-days idle, and other items; (6) 1927 to the present, during which time the Bureau of Labor Statistics has collected and published monthly and annual data on the number of strikes, workers involved, man-days idle, and other pertinent information, such as causes, results, methods of settlement, etc.

Definitions and Methods of Compiling

A strike is a temporary stoppage of work by a group of employees in order to express a grievance or to enforce a demand; a lock-out is a temporary withholding of work from a group of employees by an employer (or a group of employers) in order to coerce them into accepting the employer's terms.

Previous to 1922, the Bureau presented separate tabulations for strikes and for lock-outs. However, because of the inherent confusion existing in any industrial dispute, the difficulty of separating a strike situation from a lock-out was early recognized and in later years no effort was made to distinguish the two. All labor disputes involving stoppages of work were grouped together as "strikes and lock-outs." This phrase was abandoned in 1935, the term "strike" being used in the generic sense to include all stoppages of work due to labor disputes, whether initiated by the employer or by the workers.

Notices or leads regarding strikes are obtained from daily papers, labor and trade journals, as well as reports from various Government agencies. On the basis of these newspaper and other notices, schedules are sent to representatives of all parties engaged in the dispute, to get detailed and authentic information. In a few cases, when no replies are received by mail, agents of the Bureau call on the parties.

Because of the difficulty of securing information for all small disputes, the Bureau of Labor Statistics excludes from its reports and analyses all disputes involving fewer than 6 persons and lasting less than 1 day. It is believed that few, if any, of the strikes above these limits of size escape the Bureau's attention.

Measurement of Strikes

The three basic measures now used by the Bureau in strike statistics are the number of strikes, the number of workers involved, and the man-days idle. For a particular purpose one of these measures may be more useful than the others. The number of strikes, for instance, is an approximation of the number of times group action has been taken on the calling of strikes. The number of workers involved is useful in terms of the incidence of strikes on the working population. The total number of man-days idle gives a rough estimate of the amount of time lost by persons while involved in strikes. No one of these units of measurement should be used as the sole indicator of the severity or extent of strikes—the number of strikes, the workers involved, and the man-days idle during strikes must all be taken into account.

In a large number of cases there is a question as to what should be counted as one strike. The initiating force or cause of the strike is the chief determining factor now used by the Bureau in deciding what shall be the unit of measurement. In other words, the number of different organizations initiating the strike and the reason for calling the strike take precedence over the number of establishments or localities affected.

An industrial dispute is an expression of conflicting wills or interests of employers and employees, and is brought about by a determination of one group to force the other to correct certain grievances. The will of the workers may be expressed through the executive office of their international union, which calls a general strike throughout the entire industry, or workers in various trades in a city may express their will through the city trades assembly, which calls a city-wide strike of all trades. Such instances are considered as single strikes, since the workers are operating through a common agency. If, however, several local unions in the same city or different cities call strikes, even though for a common cause, these are counted separately. The unit of measurement, however, cannot always be determined by the scope of jurisdiction of the union or unions, since some strikes are not officially authorized by the union. In such cases the unit of measurement is based upon evidence of a common cause and the area of concerted action.

Workers involved.—There is a difference of opinion among those concerned with strike statistics as to how inclusive the term “number of workers involved” should be. Sometimes two classifications are made, viz, “directly” and “indirectly” involved. Those “directly involved” are generally defined to include those employees who initiated or voted the strike, or those covered by the terms of settlement; those “indirectly involved” are defined as the remaining employees who were forced to stop work when the shop closed because of the strike. By others the term “indirectly involved” is used to include persons not employed in the establishment where the strike took place but who, nevertheless, were affected by the strike; for example an automobile plant closed down because the transmission plant was on strike. Under these various concepts, the number involved could vary greatly.

For statistical purposes, the only practical procedure seems to be to include in the number involved all employees within the establishment who stop work or are thrown out of work because of an industrial dispute. Even this figure can be only an estimate in some instances. The reports obtained are frequently biased, the employer having a tendency to minimize and the union to magnify the number. In large general industry strikes involving many companies and many communities, nobody knows the exact number. Furthermore, the number may change from day to day as the strike grows in size or gradually wanes. In such cases, the Bureau makes as accurate an estimate as is possible from the data obtainable.

Man-days idle.—The number of man-days idle affords one of the best criteria of the magnitude of a strike, since it incorporates the two elements of number of workers involved and the number of work days these persons lost during the strike.

The man-days idle during a strike are determined by figuring the calendar days idle minus holidays and any other days these employees would not have worked had there been no strike. For instance, if the plant had been operating on a 3- or 4-day week, the number of man-days idle is based on a 3- or 4-day week. If the plant was operating on more than one shift per day, the man-days idle figure includes the number of workers engaged in each shift. Proper allowance is made in cases where the number engaged in the strike fluctuates as the strike progresses.

In former years the figure now classified under "man-days idle" appeared under the heading "man-days lost." This term has been discarded because its connotation may be inaccurate. While certain workers are idle during a strike, it does not necessarily follow that the days' work or wages have been lost. Anticipating a strike, there may have been overtime and building up for stock before the strike began. There may be overtime after the strike closes to fill delayed orders, or there may exist such a chronic oversupply that a prolonged strike does not materially affect the year's output. In other words, at times neither the employer nor workers suffer any net annual loss due to cessation of work during the strike. Furthermore, a prolonged strike in one area may mean a shift in production to another area with no lessening of the total national output. Even though certain employers and groups of workers suffer disastrous loss, other employers and workers may gain.

If it is impossible to estimate accurately the total man-days' work lost or wages lost due to strikes, any figure on the total cost of strikes would be even more fictitious. This vague concept, "cost of strikes," necessarily includes theoretical estimates of cost to employers, workers, and the public. Practically, these three elements cannot be grouped together. The employer might consider a wage increase gained through a strike as a loss to him; the workers obviously consider it a gain which, in time, will more than offset the lack of pay envelopes during the strike. Similarly, local merchants may profit through the increased wages although their business suffered during the strike. Because of these conflicting factors, an estimate of the cost of individual strikes or the cost of all strikes in a given period is misleading as well as inaccurate.

The cost of such matters as extra policing, property damage, etc., which accompany some strikes could be fairly accurately determined. The Bureau, however, has never had the resources which would be necessary to get data of this kind. There is available, therefore, no information as to the cost of policing, loss through property and personal damage, etc., occasioned by strikes.

Strikes From 1881 to 1941, by Years

The trend of strikes is shown over a period of 60 years from 1881 to 1941 in table 1. The last column of the table makes a comparison for each year between the number of workers involved in strikes and the total working population, excluding such groups as domestic servants, teachers, and supervisory persons, among who strikes rarely if ever occur. Such a comparison shows that the number of workers involved in strikes in 1940 constituted 2.3 percent of the total workers in the country (as above defined) as compared with 4.7 percent in 1939, more than 7 percent in 1934 and 1937, and (going back to the period of the World War) with 8.4 percent in 1916 and more than 6 percent in 1917 and 1918, and over 20 percent in the postwar year 1919.

TABLE 1.—*Strikes in the United States, 1881 to 1941*

Year	Number of—			Percent of total workers ² involved in strikes	Year	Number of—			Percent of total workers ² involved in strikes
	Strikes	Workers involved ¹	Man-days idle			Strikes	Workers involved ¹	Man-days idle	
1881.....	477	130,176	(3)	(3)	1915.....	1,593	(3)	(3)	(3)
1882.....	476	158,802	(3)	(3)	1916 ¹	3,789	1,599,917	(3)	8.4
1883.....	506	170,275	(3)	(3)	1917.....	4,450	1,227,254	(3)	6.3
1884.....	485	165,175	(3)	(3)	1918.....	3,353	1,239,989	(3)	6.2
1885.....	695	258,129	(3)	(3)	1919.....	3,630	4,160,348	(3)	20.8
1886.....	1,572	610,024	(3)	(3)	1920.....	3,411	1,463,054	(3)	7.2
1887.....	1,503	439,306	(3)	(3)	1921.....	2,385	1,099,247	(3)	6.4
1888.....	946	162,880	(3)	(3)	1922.....	1,112	1,612,562	(3)	8.7
1889.....	1,111	260,290	(3)	(3)	1923.....	1,553	756,584	(3)	3.5
1890.....	1,897	373,499	(3)	4.2	1924.....	1,249	654,641	(3)	3.1
1891.....	1,786	329,953	(3)	3.6	1925.....	1,301	428,416	(3)	2.0
1892.....	1,359	238,685	(3)	2.5	1926.....	1,035	329,592	(3)	1.5
1893.....	1,375	287,756	(3)	3.2	1927.....	707	329,939	26,218,628	1.4
1894.....	1,404	690,044	(3)	8.3	1928.....	604	314,210	12,631,863	1.3
1895.....	1,255	407,188	(3)	4.4	1929.....	921	288,572	5,351,540	1.2
1896.....	1,066	248,838	(3)	2.8	1930.....	637	182,975	3,316,808	.8
1897.....	1,110	416,154	(3)	4.3	1931.....	810	341,817	6,893,244	1.6
1898.....	1,098	263,219	(3)	2.6	1932.....	841	324,210	10,502,033	1.8
1899.....	1,838	431,889	(3)	3.9	1933.....	1,695	1,168,272	16,872,128	6.3
1900.....	1,839	567,719	(3)	4.9	1934.....	1,856	1,466,695	19,591,949	7.2
1901.....	3,012	563,843	(3)	4.6	1935.....	2,014	1,117,213	15,456,337	5.2
1902.....	3,240	691,507	(3)	5.4	1936.....	2,172	788,648	13,901,956	3.1
1903.....	3,648	787,834	(3)	5.9	1937.....	4,740	1,860,621	28,424,857	7.2
1904.....	2,419	573,815	(3)	4.3	1938.....	2,772	688,376	9,148,273	2.8
1905.....	2,186	302,434	(3)	2.1	1939.....	2,613	1,170,962	17,812,219	4.7
1906-13.....	(3)	(3)	(3)	(3)	1940.....	2,508	576,988	6,700,872	2.3
1914.....	1,204	(3)	(3)	(3)	1941.....	4,288	2,362,620	23,047,556	8.4

¹ The number of workers involved in some strikes which occurred between 1916 and 1926 is not known. However, the missing information is for the smaller disputes and it is believed that the total here given is fairly accurate.

² "Total workers" as used here includes all workers except those in occupations and professions where strikes rarely if ever occur. In general, the term "total workers" includes all employees except the following groups: Government workers, agricultural wage earners on farms employing less than 6, managerial and supervisory employees, and certain groups which because of the nature of their work cannot or do not strike, such as college professors, commercial travelers, clergymen, and domestic servants. Self-employed and unemployed persons are, of course, excluded.

³ No information available.

Trend of Strikes, by Months, 1936 to 1941

Table 2 shows the trend of strikes, workers involved, and man-days idle, by months, from January 1936 to December 1941. This table permits of an examination of the strike data from the standpoint of possible seasonal factors.

TABLE 2.—*Strikes, by months, January 1936 to December 1941*

Year and month	Number of strikes			Workers involved in strikes			Man-days idle during month
	Begin-ning in month or year	In pro-gress during month	Ending in month	Beginning in month or year	In progress during month	Ending in month	
<i>1936</i>							
January	167	251	149	32,406	59,153		635,519
February	148	250	131	63,056	89,735		748,491
March	185	304	174	75,191	122,162		1,331,162
April	183	313	179	65,379	95,526		699,900
May	206	340	219	72,824	123,030		1,019,171
June	188	309	158	63,429	133,531		1,327,078
July	173	324	197	38,017	125,281		1,105,480
August	228	355	210	68,752	118,268		911,216
September	234	379	236	65,994	130,875		1,063,100
October	192	335	219	100,845	148,570		1,053,878
November	136	252	126	70,116	157,007		1,940,628
December	132	258	158	72,639	184,859		2,065,733
<i>1937</i>							
January	171	271	132	108,641	214,288		2,720,441
February	211	350	204	112,468	239,482		1,521,063
March	609	755	506	289,753	357,604		3,293,506
April	527	776	509	220,388	392,825		3,368,910
May	597	864	540	322,141	440,831		2,943,351
June	601	925	575	278,837	472,270		4,985,032
July	454	804	518	142,796	352,274		3,005,989
August	432	718	440	138,811	234,376		2,229,774
September	348	626	379	84,946	155,058		1,404,154
October	303	550	362	64,618	120,282		1,150,130
November	235	423	248	67,130	114,886		935,837
December	125	300	194	21,760	58,184		634,363
<i>1938</i>							
January	168	288	159	35,329	55,850		473,289
February	198	327	180	53,175	77,486		514,111
March	274	421	246	56,759	105,962		767,856
April	281	466	261	78,666	110,950		838,158
May	300	495	290	83,029	124,682		1,174,052
June	219	424	245	52,801	95,854		871,002
July	208	387	215	50,193	85,672		776,237
August	262	434	272	48,378	81,052		830,987
September	222	384	234	96,399	133,357		989,916
October	256	406	241	52,703	113,074		842,202
November	207	372	239	43,128	75,445		557,903
December	177	310	190	37,816	62,160		512,560
<i>1939</i>							
January	203	323	184	51,159	72,427		513,460
February	204	343	204	68,252	88,267		553,138
March	210	349	199	43,337	64,660		618,147
April	281	431	255	396,166	425,748		4,902,238
May	258	434	272	95,239	457,407		3,547,868
June	245	407	269	62,534	127,474		958,127
July	251	389	216	175,542	211,548		1,168,382
August	275	448	272	79,670	118,772		1,101,419
September	197	373	222	36,846	103,538		892,485
October	205	356	217	106,628	139,608		1,508,120
November	178	317	201	43,239	130,341		1,664,574
December	106	222	128	12,350	37,122		384,261

TABLE 2.—*Strikes by months, January 1936 to December 1941—Continued*

Year and month	Number of strikes			Workers involved in strikes			Man-days idle during month
	Beginning in month or year	In progress during month	Ending in month	Beginning in month or year	In progress during month	Ending in month	
<i>1940</i>							
January.....	128	222	124	26,937	41,284	32,743	246,674
February.....	172	270	153	29,509	38,050	17,252	289,992
March.....	178	295	187	22,433	43,231	29,593	386,981
April.....	228	336	214	39,481	53,119	29,226	441,866
May.....	239	361	239	53,231	77,124	59,263	665,688
June.....	214	336	190	38,542	56,403	36,559	484,007
July.....	244	390	227	63,126	82,970	54,100	585,651
August.....	331	394	253	61,356	90,226	47,199	706,308
September.....	253	394	242	65,362	103,889	72,523	780,570
October.....	267	419	253	71,987	107,863	68,730	915,014
November.....	207	373	243	62,399	101,532	82,571	739,807
December.....	147	277	168	42,615	61,576	43,605	458,314
<i>1941¹</i>							
January.....	240	349	218	91,897	41,284	53,811	663,185
February.....	257	388	237	71,875	38,050	67,065	1,134,531
March.....	348	499	310	118,271	43,231	123,211	1,558,457
April.....	403	592	386	511,570	53,119	469,133	7,112,742
May.....	463	669	455	321,485	77,124	335,373	2,172,303
June.....	357	571	375	142,689	56,403	143,650	1,504,056
July.....	439	635	402	142,969	82,970	133,444	1,325,758
August.....	465	690	481	211,515	90,226	241,397	1,825,488
September.....	470	687	455	295,270	108,889	208,093	1,952,652
October.....	432	664	471	197,803	107,863	236,351	1,925,328
November.....	271	464	320	227,721	101,532	310,012	1,398,585
December.....	143	267	204	29,555	61,576	42,728	476,471

Analysis of Strikes in 1940

In its regular monthly reports and in its yearly summaries the Bureau of Labor Statistics presents detailed analyses of the strikes occurring during the period covered, by duration, cause, results, and other significant factors. Space in the Handbook does not permit of a presentation of these analyses over a period of years, but a summary of the annual report for 1940 will indicate the types of information made available for a year which was not exceptional as regards either the number or characteristics of the strikes occurring therein.

States Affected

New York experienced the greatest number of strikes and the largest amount of idleness because of strikes in 1940. Pennsylvania had a few more workers involved in strikes than New York, but came second in number of strikes and number of man-days of idleness. Ten States during 1940 had 70 or more strikes. In these States also were the largest number of workers involved and the greatest amount of idleness because of strikes. In general these are the leading industrial States with the largest number of workers.

TABLE 3.—*Strikes in 1940, by States*

State	Number of strikes beginning in 1940	Workers involved			Man-days idle during 1940	
		Number	Percent of total	Average per strike	Number	Percent of total
All States.....	1 2, 508	576, 988	100. 0	230	6, 700, 872	100. 0
Alabama.....	34	5, 289	. 9	156	31, 575	. 5
Arizona.....	9	1, 034	. 2	115	12, 807	. 2
Arkansas.....	20	2, 809	. 5	140	82, 627	1. 2
California.....	219	32, 735	5. 7	149	457, 559	6. 8
Colorado.....	5	209	(²)	42	2, 794	(²)
Connecticut.....	34	6, 184	1. 2	182	69, 338	1. 0
Delaware.....	8	1, 049	. 2	131	14, 115	. 2
District of Columbia.....	25	3, 431	. 6	137	19, 021	. 3
Florida.....	28	9, 277	1. 6	331	96, 515	1. 4
Georgia.....	14	1, 753	. 3	125	41, 432	. 6
Idaho.....	3	145	(²)	48	2, 885	(²)
Illinois.....	133	27, 548	4. 8	207	462, 227	6. 9
Indiana.....	67	16, 605	2. 9	248	278, 756	4. 2
Iowa.....	25	960	. 2	38	32, 829	. 5
Kansas.....	9	525	. 1	58	8, 977	. 1
Kentucky.....	29	9, 168	1. 6	235	65, 298	1. 0
Louisiana.....	28	3, 638	. 6	130	51, 299	. 8
Maine.....	10	1, 582	. 3	158	5, 417	. 1
Maryland.....	29	14, 791	2. 6	510	140, 677	2. 1
Massachusetts.....	104	21, 911	3. 8	211	256, 025	3. 8
Michigan.....	73	25, 773	4. 5	353	195, 297	2. 9
Minnesota.....	25	3, 223	. 6	129	99, 228	1. 5
Mississippi.....	6	1, 198	. 2	200	8, 361	. 1
Missouri.....	70	23, 103	4. 0	330	258, 904	3. 9
Montana.....	4	405	. 1	101	7, 905	. 1
Nebraska.....	5	286	(²)	57	1, 616	(²)
Nevada.....	3	52	(²)	17	1, 056	(²)
New Hampshire.....	5	1, 144	. 2	229	6, 696	. 1
New Jersey.....	179	34, 415	5. 9	192	381, 732	5. 7
New Mexico.....	3	223	(²)	74	6, 041	. 1
New York.....	553	104, 446	18. 0	189	1, 247, 401	18. 8
North Carolina.....	23	4, 921	. 9	214	93, 164	1. 4
North Dakota.....	7	93	(²)	13	1, 137	(²)
Ohio.....	149	29, 752	5. 2	200	322, 922	4. 8
Oklahoma.....	13	330	. 1	25	7, 946	. 1
Oregon.....	41	7, 062	1. 2	172	116, 899	1. 7
Pennsylvania.....	301	105, 064	18. 1	349	904, 939	13. 7
Rhode Island.....	14	2, 943	. 5	210	19, 179	. 3
South Carolina.....	16	8, 577	1. 5	536	76, 222	1. 1
South Dakota.....	4	51	(²)	13	241	(²)
Tennessee.....	25	7, 557	1. 3	302	40, 586	. 6
Texas.....	40	5, 804	1. 0	145	87, 051	1. 3
Utah.....	7	200	(²)	29	1, 592	(²)
Vermont.....	3	269	(²)	90	2, 921	(²)
Virginia.....	29	7, 226	1. 3	249	143, 866	2. 1
Washington.....	77	33, 068	5. 7	429	393, 287	5. 9
West Virginia.....	28	3, 810	. 7	136	42, 825	. 6
Wisconsin.....	49	5, 325	. 9	109	99, 036	1. 5
Wyoming.....	1	25	(²)	25	150	(²)

¹ The sum of this column is more than 2,508. This is due to the fact that 55 strikes which extended across State lines have been counted, in this table, as separate strikes in each State affected, with the proper allocation of number of workers involved and man-days idle.

² Less than $\frac{1}{10}$ of 1 percent.

Cities Affected

The number of strikes in New York City (445) was exactly equal to the combined number of strikes in the next 10 highest cities; the number of workers involved in the New York City strikes was 85 percent as great as the total for the next 10 cities and the amount of idleness was 90 percent as great. Philadelphia was second to New York in number of strikes (70), but St. Louis was second in number of workers involved (20,454) and man-days idle (214,386). The building-trades strike in October accounted for a large portion of the comparatively high figures for St. Louis.

Fifteen cities had 25 or more strikes during 1940. These cities, ranked in order of the number of strikes experienced, number of workers involved, and number of man-days idle, were as follows:

<i>Strikes</i>		<i>Workers involved</i>	
New York City	445	Los Angeles	6, 779
Philadelphia	70	Pittsburgh	6, 235
Cleveland	56	Oakland (East Bay area)	5, 984
Los Angeles	56	Newark	4, 713
Chicago	45	Jersey City	3, 507
St. Louis	43	Washington, D. C.	3, 431
Newark	39	San Francisco	1, 967
Detroit	38		
Seattle	34	<i>Man-days idle</i>	
Oakland (East Bay area)	33	New York City	1, 073, 597
Pittsburgh	31	St. Louis	214, 386
San Francisco	31	Philadelphia	209, 623
Jersey City	26	Chicago	142, 967
Boston	25	Boston	111, 023
Washington, D. C.	25	Cleveland	107, 659
		Los Angeles	100, 522
<i>Workers involved</i>		Detroit	94, 090
New York City	87, 373	Pittsburgh	86, 336
St. Louis	20, 454	Seattle	85, 568
Philadelphia	15, 114	Oakland (East Bay area)	79, 163
Detroit	14, 794	Newark	73, 640
Chicago	13, 063	San Francisco	44, 570
Cleveland	7, 778	Jersey City	26, 064
Boston	7, 665	Washington, D. C.	19, 021
Seattle	7, 557		

Workers Involved, by Industry Groups

The average number of workers involved in the 2,508 strikes which began in 1940 was 230 per strike. Half of the strikes involved fewer than 50 workers. Approximately one-fourth of the strikes involved fewer than 20 workers each and two-thirds of the total involved fewer than 100 workers each. About one-fourth of the strikes ranged in size from 100 up to 500 workers each and only about 9 percent of the total strikes involved 500 or more workers each. Among the latter were four strikes in each of which more than 10,000 workers were involved—2-day stoppages in the New York clothing industry and building trades in St. Louis, and longer stoppages of painters in New York and lumber workers on the Pacific Coast.

Strikes were larger, on the average, in the industries manufacturing transportation equipment (aircraft, automobiles, and ships) than in any other industry group and the professional-service strikes were the smallest, on the average.

TABLE 4.—*Strikes beginning in 1940, by number of workers involved and industry group*

Industry group	Total	Average number of workers per strike	Number of strikes in which the number of workers involved was—							
			6 and under 20	20 and under 100	100 and under 250	250 and under 500	500 and under 1,000	1,000 and under 5,000	5,000 and under 10,000	10,000 and over
All industries:										
Number.....	2,508	230	610	1,053	420	195	119	96	11	4
Percent.....	100.0		24.3	42.1	16.7	7.8	4.7	3.8	0.4	0.2
<i>Manufacturing</i>										
Iron and steel and their products, not including machinery.....	121	330	9	38	33	20	12	9		
Machinery, not including transportation equipment.....	130	274	12	52	30	20	7	9		
Transportation equipment.....	51	973	4	9	15	8	3	8	4	
Nonferrous metals and their products.....	52	308	11	19	13	4	3	1	1	
Lumber and allied products.....	211	248	26	89	56	23	9	7		1
Stone, clay, and glass products.....	65	194	4	29	21	6	4	1		
Textiles and their products.....	348	222	68	168	51	28	19	12	1	1
Leather and its manufactures.....	39	180	7	13	14	1	2	2		
Food and kindred products.....	152	111	35	75	27	9	4	2		
Tobacco manufactures.....	9	552	2	5				2		
Paper and printing.....	83	95	28	32	16	4	3			
Chemicals and allied products.....	36	401	5	16	7	4	2	1	1	
Rubber products.....	18	474	3	6	1	2	2	4		
Miscellaneous manufacturing.....	95	93	23	42	20	8	2			
<i>Nonmanufacturing</i>										
Extraction of minerals.....	65	650	1	18	10	11	12	13		
Transportation and communication.....	182	248	60	72	21	11	9	7	2	
Trade.....	275	162	126	99	21	14	7	6	2	
Domestic and personal service.....	160	56	76	70	8	2	3	1		
Professional service.....	29	49	8	18	3					
Building and construction.....	310	230	86	145	43	14	12	8		2
Agriculture and fishing.....	24	243	3	10	2	5	3	1		
WPA, relief, and resettlement projects.....	4	184	2	1			1			
Other nonmanufacturing industries.....	49	106	11	27	8	1		2		

Duration of Strikes

The workers involved in 1940 strikes were idle about 11½ working days on the average. Nearly 42 percent of the workers were idle for less than 1 week, 40 percent were idle from a week up to a month, and the remaining 18 percent were idle for 1 month or more. Since the larger strikes tended to be shorter than the small strikes, the average number of days per strike was greater than the average time lost per worker. Strikes ending in 1940 lasted about 21 calendar days on the average. In 1939 and in 1938 the average duration of strikes was about 23 calendar days.

Sex of Workers

Approximately 86 percent of the workers involved in 1940 strikes were men and a little less than 14 percent were women. It is estimated that of the total workers in industries and occupations where strikes occur, about 81 percent are men and 19 percent are women. On the basis of this estimate, about 2.4 percent of the total male workers were involved in strikes during 1940 as compared with 1.6 percent of the total female workers. Men were involved exclusively in 61.3 percent of the strikes ending in the year, and in 1.8 percent of the

strikes women were involved exclusively. In 36.5 percent both men and women were involved. The sex of workers in 9 strikes (0.4 percent of the total) was not reported.

Labor Organizations Involved

In table 5 the affiliations of the unions involved in 1940 strikes are indicated. In the majority of cases the unions regarded as involved in the strikes were the initiators and provided the leadership and guidance for the workers throughout the disputes and the settlement negotiations.

Unions affiliated with the American Federation of Labor were involved in 62 percent of the strikes ending in 1940, which included 53½ percent of the total workers involved and 54½ percent of the total man-days of idleness. Nearly 20 percent of the A. F. of L. strikes were among the building trades.

Affiliates of the Congress of Industrial Organizations were involved in 28 percent of the total strikes. C. I. O. strikes were larger on the average than A. F. of L. strikes and included almost 40 percent of the total workers and man-days of idleness. The largest C. I. O. strikes during the year were in automobile manufacturing and in the steel, rayon, aluminum, shipbuilding, and aircraft industries.

Unions affiliated with neither the A. F. of L. nor the C. I. O. were involved in 5½ percent of the strikes. The International Ladies' Garment Workers' Union before reaffiliation with the A. F. of L. accounted for a large proportion of these. Among other unaffiliated unions involved were the Mechanics Educational Society of America, involved in 6 strikes. In 3 percent of the strikes two rival unions were involved; most of these were A. F. of L. and C. I. O. unions, but in a few cases there were disputes between either an A. F. of L. or a C. I. O. union and unaffiliated organizations. These rival union disputes included less than 3 percent of the total workers involved and accounted for only 2 percent of the total idleness. Unions confined to one company engaged in only 3 small strikes. In 45 small strikes no union was involved.

TABLE 5.—*Strikes ending in 1940, by affiliations of labor organizations involved*

Labor organization involved	Strikes		Workers involved		Man-days idle	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
Total.....	2, 493	100.0	573, 364	100.0	6, 679, 745	100.0
American Federation of Labor.....	1, 541	61.9	306, 541	53.5	3, 631, 899	54.5
Congress of Industrial Organizations.....	689	27.6	222, 858	38.9	2, 668, 149	39.9
Unaffiliated unions.....	138	5.5	21, 972	3.8	212, 435	3.2
Railroad brotherhoods.....	3	.1	360	.1	2, 758	(1)
2 rival unions.....	74	3.0	15, 013	2.6	134, 681	2.0
Company unions.....	3	.1	174	(1)	956	(1)
No organization.....	45	1.8	6, 446	1.1	28, 867	.4

¹ Less than ¼ of 1 percent.

Causes of Strikes

The difficulty in classifying strikes according to causes is apparent to anyone familiar with the complexities of employer-employee relationships. Although a single grievance or demand is the cause of a

few strikes, in most disputes which result in stoppages of work there are numerous diversified grievances or demands. Each complex situation, where many grievances or demands may be involved, must necessarily be classified according to what are judged to be the most important or "major" issues.

TABLE 6.—Major issues involved in strikes ending in 1940

Major issue	Strikes		Workers involved		Man-days idle	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All issues.....	2,493	100.0	573,364	100.0	6,679,745	100.0
Wages and hours.....	753	30.2	234,832	41.0	3,092,929	46.3
Wage increase.....	560	22.5	162,464	28.3	2,083,912	31.3
Wage decrease.....	78	3.1	18,206	3.2	176,757	2.6
Wage increase, hour decrease.....	85	3.4	39,349	6.9	696,243	10.4
Wage decrease, hour increase.....	6	.2	9,622	1.7	93,668	1.4
Hour increase.....	5	.2	210	(1)	425	(1)
Hour decrease.....	19	.8	4,981	.9	41,924	.6
Union organization.....	1,243	49.9	190,067	33.1	2,727,448	40.8
Recognition.....	260	10.4	19,922	3.5	367,548	5.5
Recognition and wages.....	283	11.4	38,416	6.7	775,983	11.6
Recognition and hours.....	10	.4	238	(1)	9,416	.1
Recognition, wages, and hours.....	214	8.6	12,478	2.2	213,764	3.2
Discrimination.....	123	4.9	27,821	4.9	292,462	4.4
Strengthening bargaining position.....	37	1.5	21,762	3.8	193,570	2.9
Closed or union shop.....	289	11.6	63,847	11.0	831,534	12.5
Other.....	27	1.1	5,588	1.0	431,71	.6
Miscellaneous.....	497	19.9	148,465	25.9	859,368	12.9
Sympathy.....	29	1.2	5,302	.9	41,406	.6
Rival unions or factions.....	81	3.2	18,354	3.2	149,192	2.2
Jurisdiction ²	77	3.1	8,087	1.4	59,016	.9
Other.....	272	10.9	114,364	20.0	591,905	8.9
Not reported ³	38	1.5	2,098	.4	17,249	.3

¹ Less than 1/10 of 1 percent.

² It is probable that the figures here given do not include all jurisdictional strikes. Owing to the local nature of these disputes, it is difficult for the Bureau to find out about all of them.

³ Most of the strikes in this group were against women's clothing manufacturers—many of them in New York City. The union involved regarded them as strikes for the enforcement of the union agreements but the specific issue involved in each case was not reported.

Disputes classified under "wages and hours" are mostly cases in which an increase or decrease in basic wage rates or hours of work appeared to be the most important issue. This group also includes some disputes primarily about overtime rates and hours for which overtime should be paid.

Of the disputes classified under "union organization" issues, the "recognition" strikes (with or without the addition of wage or hour issues) were mostly disputes with nonunion firms where newly organized workers were demanding recognition for the first time. Not all of the recognition strikes were directed against unorganized firms however. Some were situations where a union agreement had expired and the union felt that the firm did not negotiate "in good faith" for a new agreement; that is, gave evidence that it sought or hoped to revert to a nonunion basis. Such cases are distinct from situations in which the management and unions are unable to reach an agreement over specific terms; these are classified under the particular issue in disagreement as, for example, wages and hours. "Discrimination" strikes usually result from incidents of hiring or the discharg-

ing of union members, but the issue of discrimination is sometimes encountered in connection with promotion or job assignment.

"Strengthening bargaining position" refers to disputes in which a union endeavors to extend the scope of its representation and bargaining, usually by attempting to represent a greater proportion of the workers or to extend the subject matter about which it can bargain for its members. In most of these cases formal recognition has been granted previously. In some of the disputes classified under "closed or union shop" the union demanded the check-off as a means of obtaining or stabilizing the closed-shop condition.

The disputes classified as "other" under the union-organization strikes centered in some union organization difficulty which did not fall under the preceding headings.

Results of Strikes

The Bureau classifies the results of strikes to show whether the workers won substantially all they demanded, gained a part of what they sought, or were largely unsuccessful either in gaining their demands or in defeating changes demanded by the employer which they did not want. A strike that is "substantially won," or the so-called successful strike, does not in all cases result in an advance or improvement in working conditions; it may mean merely that the workers have been successful in warding off an attempted worsening of their condition, as in a case where they maintained their former wages by defeating a proposal for a wage decrease.

About 27 percent of all the workers involved in the strikes ending in 1940 won substantially all of their demands; 56 percent obtained compromise settlements or partial gains; and 9 percent gained little or nothing. Of the 2,493 strikes ending in 1940 the workers substantially won 42 percent, compromised 32 percent, and gained little or nothing as a result of 17 percent. Twenty-four percent of the total idleness resulted from the strikes which were substantially won, 58 percent resulted from those which were compromised, and 13 percent resulted from those which brought little or no gains to the workers. The results of 2½ percent of the strikes were indeterminate or not reported. Another 6 percent of them were jurisdiction, rival union, or factional disputes, the results of which could not be classified as won, lost or compromised because a gain to one group necessarily constituted a loss to other workers who were involved in the strike.

TABLE 7.—Results of strikes ending in 1940

Result	Strikes		Workers involved		Man-days idle	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
Total.....	2,493	100.0	573,364	100.0	6,679,745	100.0
Substantial gains to workers.....	1,047	42.0	157,307	27.4	1,602,182	24.0
Partial gains or compromises.....	794	31.8	321,761	56.3	3,855,884	57.7
Little or no gains to workers.....	433	17.4	53,497	9.3	871,755	13.1
Jurisdiction, rival union, or faction settlements.....	158	6.3	28,641	4.6	208,808	3.1
Indeterminate.....	27	1.1	12,226	2.1	138,593	2.0
Not reported.....	34	1.4	1,932	.3	7,523	.1

Methods of Negotiating Settlements

Nearly 43 percent of the strikes ending in 1940 were settled with the assistance of Government officials or boards. On the average these were the larger and more prolonged strikes, as is evidenced by the fact that they included about 59 percent of the total workers involved in all strikes and accounted for 70 percent of the total idleness. Approximately 40 percent of the strikes, which included 35 percent of the total workers and accounted for 21 percent of the total idleness, were settled directly between employers and union officials. Private conciliators or arbitrators assisted in settling 33 strikes (1.3 percent of the total) during the year. Nearly 15 percent of the strikes, which included 5 percent of the total workers and accounted for 9 percent of the total idleness, were terminated without formal settlements. In most of these cases the strikers discontinued their strikes and returned to work on the employers' terms or they lost their jobs entirely when the management replaced them with new workers, moved to other localities, or went out of business.

Of the 1,066 strikes settled with the assistance of Government officials or boards, 1,021 were settled through conciliation or mediation. Arbitration was used in 45 cases. Of the 33 settled with the aid of private conciliators or arbitrators, conciliation methods were used in 11 and arbitration in 22. In 67 out of 2,493 strikes ending during 1940, work was resumed when both parties agreed to turn over some or all of the matters in dispute to a neutral person for final settlement.

TABLE 8.—*Methods of negotiating settlements of strikes ending in 1940*

Agency by which negotiations toward settlements were carried on	Strikes		Workers involved		Man-days idle	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All agencies.....	2,493	100.0	573,364	100.0	6,679,745	100.0
Employers and workers directly.....	24	1.0	2,509	.4	19,550	.3
Employers and representatives of organized workers directly.....	1,004	40.3	200,168	34.9	1,376,028	20.6
Government officials or boards.....	1,066	42.7	336,172	58.7	4,664,482	69.8
Private conciliators or arbitrators.....	33	1.3	5,416	.9	33,040	.5
Terminated without formal settlement.....	366	14.7	29,099	5.1	586,645	8.8

Review of Strikes From 1915 to 1940¹

It was not until late in 1915 that American business generally began to feel the effects of the war in Europe. With the rising prices and the increasing need for labor, industrial disputes more than doubled in 1916 and reached a peak of 4,450 in 1917. A large proportion of the wartime strikes occurred in the building and metal trades, in the shipyards, and in the lumber, coal, copper, and transportation industries. Textile and clothing strikes also were more numerous than usual.

¹ From article by Florence Peterson, in the Monthly Labor Review for May 1938, (p. 1054), with additional data for later years.

The most serious strikes, as far as the conduct of the war was concerned, were those which took place at Bridgeport, Conn., and in the northwest lumber industry. The latter, which tied up the entire northwest lumber industry during the greater part of 1917, were primarily for the 8-hour day, although wages and working conditions were important factors. In spite of appeals from the Secretary of War and the President's Mediation Commission, the Lumbermen's Protective Association refused the hour reduction, even going so far as to pledge itself to discriminate against any member who would grant the 8-hour day. Finally, in the spring of 1918, the basic 8-hour day was granted.

The machinists' strikes in the munition factories at Bridgeport were for wage increases and against discrimination for union activity. A number of Government agencies intervened to settle these strikes, but dissatisfaction continued throughout the war, although some wage increases were granted. In lieu of trade-union recognition, an elaborate employee-representation plan was established by the War Labor Board.

Numerous as the wartime strikes were, they were of comparatively short duration and did not involve, on the average, a large number of workers. This no doubt was due to the numerous Government labor boards which were established to maintain industrial peace during the war.

Over 4 million persons were involved in the strikes of 1919, the largest number of workers ever involved in strikes in any one year. The chief causes of these widespread disputes were the rising cost of living, which by 1920 was twice as high as in 1914, and the determination of trade-unions to extend further the influence of union organization in areas in which they had obtained a foothold during the war.

The first general or city-wide strike of any size which had ever occurred in the United States took place in Seattle in 1919, when union members stopped work for 5 days in sympathy with the metal-trades workers in the local shipyards. During this same year the policemen of Boston, dissatisfied over wages and working conditions, formed a policemen's union and affiliated with the American Federation of Labor. When a number of them were discharged for joining the union, the entire police force went on strike. This aroused considerable public reaction against Government employees joining unions which permitted strikes. There were a number of telephone strikes during the summer of 1919, most of which resulted in wage increases. One practically cut off telephone communication throughout New England for 6 days. Strikes in the men's clothing industry in New York resulted in the general adoption of the 44-hour week throughout the country in the shops of the members of the National Association of Clothing Manufacturers.

The largest strikes occurring during 1919 were in steel and bituminous-coal mining. The bitter and violent steel strike, in which 367,000 workers were involved, was primarily for union recognition. Although this strike was lost the men gradually returning to work without a formal settlement, an aftermath was the substitution of the 8-hour for the 12-hour day. While this controversy was still in progress a strike was called in the bituminous-coal industry. Approxi-

mately 425,000 miners were involved, tying up 75 percent of the industry. The chief cause was a failure to get a new agreement with wage advances in line with the increased cost of living. After 3 months the men returned to work, accepting President Wilson's compromise for a 14-percent wage increase and a promise of further investigation of wages and prices of coal. A special arbitration board, known as the Bituminous Coal Commission, later awarded a 27-percent increase.

Although there were no such large disputes in 1920 as there had been during the preceding year, the total number of strikes remained at a high level. A large proportion were for wage increases. The strike involving the largest number of persons was a week's stoppage of 100,000 anthracite miners in a futile protest against the 17-percent wage-increase award of the Anthracite Coal Commission, instead of the 27 percent which the miners felt was due them on the basis of increased cost of living. There were also a number of sporadic strikes, especially in Illinois and Indiana, among bituminous-coal miners for an increase for day workers in excess of that allowed by the Bituminous Coal Commission. These strikes were not sanctioned by the United Mine Workers of America, which insisted that the strikers return to work. When work was resumed, President Wilson called a conference of the joint scale committee of the operators and miners of the control competitive field. When this conference failed to agree as a unit on the amount of increase to be granted, separate rates were set for each State.

Discontent with wages which had not been adjusted to rapidly increasing cost of living resulted in numerous railroad strikes, many of them unauthorized by the brotherhoods. Increasing chaos on the railroads hastened the appointment by President Wilson of the Railroad Labor Board, as provided by the 1920 Transportation Act. In July this Board granted a general wage increase.

Depression Following First World War

The wage issue was sharply reversed in 1921 when cost of living dropped about 17 percent from its high point in 1920. During this year there were almost 1,000 strikes in protest against wage decreases. The largest strike during 1921 was that of 140,000 marine workers in the principal ports in protest against a 15-percent general reduction promulgated by the United States Shipping Board. This strike was lost and resulted in the virtual collapse of the once-strong Seamen's Union.

The printers' unions engaged in an unprecedented number of strikes in their drive for a 44-hour week. An evidence that many of these strikes were successful is the fact that the index of union hours in book and job printing dropped 8 percent in 1921.²

There were less than half as many strikes in 1922 as in 1921, although the number of workers involved in strikes was 50 percent greater. The decrease in strikes was most marked in the building trades, where the number dropped from 583 to 113.³ The increase in the number of persons involved was largely due to the strike of

² See p. 238, vol. II.

³ The depression did not affect wages in the building trades until agreements were being negotiated in the spring of 1922. Average wage rates then dropped about 6 percent but were largely restored in 1923. See p. 47, vol. II.

400,000 railroad shop craftsmen, and to strikes throughout the coal industry which involved a total of 600,000 miners.

The railroad shop craftsmen's strike was originally called in protest against wage reductions ordered by the Railroad Labor Board. During the progress of this strike other matters than the wage question assumed importance. A sweeping injunction was issued which practically forbade every traditional strike activity carried on by unions. The loss of prestige which the Railroad Labor Board suffered during this strike contributed to its abandonment soon afterward. Many company unions were established in the railroad shops during the course of this dispute.

Prior to the 1922 strike in the bituminous-coal industry, the collective-bargaining arrangements which had existed in the central competitive field since 1898 were seriously threatened when coal operators in western Pennsylvania and Ohio declined to attend the biennial conference to negotiate a new agreement, and announced drastic wage reductions (31 to 46 percent) and abolition of the check-off. The anthracite miners and operators were also in disagreement, the former asking for a 20-percent wage increase and the latter a 21-percent wage reduction. When negotiations failed the union called a general strike. This was the most complete response to a strike call in the history of mine strikes, with anthracite and bituminous-coal miners for the first time going on strike simultaneously. In spite of intervention by the President and governors of the affected States, the strike continued throughout the summer. It was comparatively free of disorder except at Herrin, Ill., where a number of persons were killed when strike-breakers were brought in from Chicago. Both bituminous-coal and anthracite miners returned to work in August, when agreements were reached to maintain the status quo and to negotiate further. One result of this strike was the establishment by Congress of the United States Coal Commission whose duty it was to investigate all phases of production, transportation, and distribution of coal and all organized and other relations among operators and miners with a view to recommending remedial legislation.

In January 1922 a general textile strike, which involved 60,000 workers in cotton and woolen textile mills, was called throughout New England in protest against a general 20-percent wage reduction and increase in hours from 48 to 54 per week in some Rhode Island and New Hampshire plants. In Rhode Island there was a good deal of violence in clashes between the strikers and State militia and policemen. By September many mills were reopened when wage reductions were restored. Where mills refused to go on the 48-hour week the strike continued until November, when the United Textile Workers of America called off the strike with the promise to their members that the fight for the 48-hour week would be taken up in the State legislature.

Strikes From 1923 to 1933

Although the number of strikes increased in 1923, there were less than half as many workers involved as in 1922. Most of this increase was due to strikes for higher wages, indicating an effort to regain some of the wage losses of the 1921-22 depression. Beginning in 1924 there was an almost steady decline in the number of strikes each year

until, in 1928, there were fewer strikes than there had been in any year since 1884.⁴ The most noticeable decline in strikes was in the metal trades, which dropped to around 50 from a war peak of over 500; in the printing trades, where strikes declined from over 500 in 1921 to about a dozen a few years later; and in transportation, where strikes decreased from over 300 during the war to 7 and 8 in 1925 and 1926.

The total number of workers involved in strikes during these years was also small, in spite of the fact that there were several large strikes. The largest was the 1927 strike of 165,000 bituminous-coal miners, which started in April and continued through the rest of the year. In 1928 there was another protracted strike in the bituminous-coal industry, although this was not so widespread as the 1927 strike. The failure of these strikes resulted in a serious loss in membership in the United Mine Workers of America and the virtual abandonment of the central competitive field as a basic unit for wage negotiations.

During 1929, a peak year in business activity, there was some increase in the number of strikes but they were all small disputes, the total number of workers involved being less than in preceding years. The increase was largely in textiles and clothing, almost half the total persons involved during 1929 being in these two industries.

Beginning with the depression in 1930, the number of strikes declined and remained low during the following 3 years. Strike activity was at a minimum in 1930. The rapid recession of business activity discouraged strikes for wage increases. At the same time comparatively few wage cuts were put into effect that year. By 1931 and 1932 wage reductions became general and protest strikes became more numerous, practically half of the strikes during these years being in protest against such wage reductions. A relatively large number of these strikes were called by independent unions as, for example, the Amalgamated Clothing Workers, the National Union of Textile Workers, the Needle Trades Workers' Industrial Union, and the National Miners' Union.

The NRA Period

The first year of recovery and the impetus for increased labor activity resulting from the National Industrial Recovery Act doubled the number of strikes in 1933. During the summer of that year, for the first time in a decade, there were more than 200 new strikes each month, and, for the first time since 1922 there were more than 1,000,000 workers involved in strikes throughout the year. There were 17 strikes during the year involving 10,000 or more workers.

Whereas during the preceding depression years there were four times as many strikes in protest against wage decreases as for wage increases, in 1933 there were almost five times as many strikes for wage increases as against reductions in wages. Strikes for union recognition also increased; almost one-third of the 1933 strikes were disputes over union status.

The largest strikes in 1933 occurred in the various branches of the clothing industry and in mining. In those branches and regions where the clothing workers were already organized, the strikes were

⁴ This statement ignores the period 1906-13, for which no figures are available.

for more satisfactory wages and hours, as, for instance, the New York ladies' garment and cloak and suit strikes. The walk-out of 50,000 employees in men's clothing plants in the tri-State New York area and Maryland was a successful strike for union recognition, as was also the strike of 15,000 dye workers in New Jersey. Strikes against silk manufacturers in New Jersey and Pennsylvania, on the other hand, failed to obtain recognition (gained 4 years later) but brought some wage concessions.

Prolonged mining strikes during 1933 in Pennsylvania and West Virginia for the most part failed to gain outright recognition. Strikers returned to work when employers promised to adopt the standards provided in the code of fair competition established under the National Industrial Recovery Act.

There was a moderate increase in the number of strikes during 1934, with a larger proportion (45.9 percent) due to disputes over union recognition, discrimination, closed shop, and similar causes. These were the dominant issues in the numerous coal strikes in Alabama, West Virginia, and Kentucky, some of which were successful. The strike of 30,000 New York taxicab drivers brought some wage increases, but union recognition was not gained until late in 1937.

Several large strikes of anthracite miners during 1933, 1934, and 1935 were caused by rivalry between the United Mine Workers of America and a recently organized insurgent group, the United Anthracite Miners of Pennsylvania. In October 1935 the latter merged with the United Mine Workers, thereby eliminating the cause of these disputes.

The two outstanding strikes in 1934 were those of the San Francisco longshoremen, which brought on a 2-day general sympathy strike of all organized trades in the San Francisco Bay area, and the general textile strike, which involved 309,500 textile workers in 20 States and 66,000 hosiery and other workers who called 1-day strikes in sympathy. The textile strike, which was primarily over recognition and the "stretch-out" system, brought few gains other than the promise of a thorough investigation of the textile industry by a special committee appointed by the President. The prolonged and bitter longshoremen's strike resulted not only in recognition and wage and hour adjustments for all ports on the Pacific Coast, but the system of hiring halls set up under the arbitration award led to a virtual closed shop.

Union organization continued as the dominant issue in a large proportion of the strikes which occurred during the early months of 1935. Some of these were directed against company unions and for trade unions, some for union recognition in plants or industries into which union influence had never before penetrated, and some for a return of union recognition which had been lost during the depression.

The Chevrolet and Fisher Body strikes in 1935 at Toledo and Cincinnati, primarily against the representation plans set up under the Automobile Labor Board, were a harbinger of the more widespread automobile strikes which followed 2 years later. Strikes throughout the lumber and sawmill areas of Washington and Oregon were directed against the Loyal Legion of Loggers and Lumbermen, a joint employer-employee organization established during the war, and for recognition of the A. F. of L. Sawmill and Timber Workers' Union.

Strikes among white-collar and retail workers grew to significant numbers during the latter part of 1934 and early months of 1935. The year-old Newspaper Guild called its first strike, which resulted in a signed agreement with the Newark Morning Ledger. There were a number of large department-store and chain-grocery store strikes, in only a few of which union recognition was obtained. Some of the dental technicians in New York, St. Louis, and elsewhere, who went on strike, obtained signed contracts and reductions in hours and better working conditions.

Post-NRA Period

In 1933, with the beginning of business recovery, about 42 percent of the strikes were for wage increases and hour decreases and about 13 percent against wage decreases. During the next year, 33 percent of the strikes were for wage increases and hour decreases and only 6 percent were in protest against wage decreases. About this same proportion continued until the first month after the invalidation of the NIRA in May 1935, when, for the first time since 1932, there were almost twice as many strikes in protest against wage decreases as for wage increases. While such protest strikes slightly declined during succeeding months, the proportion for the year (1935) was comparatively high—about 60 percent as many as for wage increases and hour decreases. Less than half of these protest strikes succeeded in staving off wage reductions and increased hour schedules. However, the largest strike in 1935, that of 366,000 bituminous-coal miners in 23 States, was successful in obtaining increased wages.

Although there were a few more strikes in 1936 than in 1935, there were 29 percent fewer workers involved and 10 percent fewer man-days' work lost. The decline in the number of workers involved in 1936 as compared with the two previous years was mainly due to the fact that there were no extremely large strikes during the year, whereas in September 1935 there was the short but widespread strike of bituminous-coal miners, and in September 1934 there was the general textile strike. There were only 8 strikes in 1936 which involved as many as 10,000 workers.

Strikes over questions of union organization increased, such strikes amounting to half the total, including an equal proportion of all workers involved in strikes during 1936. Over half of these organization strikes were successful and another quarter resulted in compromises.

Demands for wage increases, preferential union shop, and the check-off system caused strikes involving about 13,000 employees of the two largest flat-glass manufacturing companies in the country. Settlements brought general wage increases, recognition of the union, readjustments in seniority and other working rules, but not the check-off.

The rubber industry, which had been particularly free from labor disputes even during the war period, was first seriously affected by strikes during 1936. It was in Akron that the sit-down strike was first used to any extent. The companies' desire to lengthen hours and reduce piece-work rates, together with the desire of the new United Rubber Workers' Union for recognition, led to numerous short, departmental sit-down strikes, as well as to prolonged strikes which completely closed the largest of the rubber companies.

The largest and most prolonged strikes during 1936 were those of the maritime workers on all three coasts. The Pacific coast strike of 37,000 seamen and longshoremen completely tied up water transportation for several months and thereby affected thousands of other workers, particularly in the lumber and canning industries of the Northwest. In contrast to the 1934 strike there was practically no violence. By the terms of the settlement effected February 4, 1937, licensed and unlicensed personnel received wage increases and the union maintained its control of the dispatching from the hiring halls. The Atlantic coast strike, which was originally called in sympathy for the west coast workers, was never sanctioned by the International Seamen's Union and developed into an internal struggle with an insurgent movement of rank and file members which later organized in the National Maritime Union. No ports on the Atlantic and Gulf coasts were completely tied up, although boat schedules were seriously impaired for several weeks before the seamen returned to work with no formal settlements.

Strikes During 1937

There were more strikes in 1937 than in any year in the Nation's history, although the number in 1917 was almost as great. However, the number of workers involved in strikes in 1937 was less than half that in 1919, although somewhat greater than in any other year. While several industries were particularly affected by labor disputes in 1937, there were no such extensive strikes involving several hundred thousand workers as occurred in the past in the coal, steel, and textile industries.

The unprecedented number of strikes during the first 11 months of 1937 was due to various factors. Underlying all was the fact that business was on the up-grade. Prices were rising and conditions were favorable for workers to make demands upon their employers. The direct factor was the accelerated growth on all fronts of the trade-union movement. Trade-unionism, which had become revitalized with the beginning of the NRA, made steady progress during the following 4 years. The passage of the National Labor Relations Act in 1935, and more especially the decisions of the Supreme Court on April 12, 1937,⁵ assured hitherto unorganized workers of their right to join the ranks of organized labor and of their right to protection against discrimination.

During 1936 the trade-union movement had split, primarily, on the method of organization in the mass-production industries. The result was not only an increase in organization activities in the mass-production industries, but vigorous organization drives throughout all industry by both the A. F. of L. and the newly organized C. I. O. The use of the sit-down strike, especially during the early months of the year, also tended to increase the number of strikes. The informality of the sit-down method enabled groups of dissatisfied workers, who were frequently not even organized into unions, spon-

⁵ These decisions which sustained the constitutionality of the National Labor Relations Act were in the following cases: *National Labor Relations Board v. Jones & Laughlin Steel Corp.*, 57 Sup. Ct. 615; *National Labor Relations Board v. Fruehauf Trailer Co.*, 57 Sup. Ct. 642; *National Labor Relations Board v. Friedman-Harry Marks Clothing Co., Inc.*, 57 Sup. Ct. 645; *The Associated Press v. National Labor Relations Board*, 57 Sup. Ct. 648; *Washington, Virginia & Maryland Coach Co. v. National Labor Relations Board*, 57 Sup. Ct. 650.

taneously to call strikes without previous discussion or sanction from trade-union officials.

Automobile industry.—The first strike ensuing from the organization drives into mass-production industries during 1937 was against the General Motors Corporation. After 6 weeks, during which some plants were occupied by strikers most of the time, the company signed a recognition agreement with the United Automobile Workers of America. Subsequently union recognition was granted, following prolonged strikes, by all the other major automobile companies except the Ford Motor Co. While these strikes against large companies were taking place there were numerous strikes in auto-parts, farm-equipment, and automobile-repair shops, most of which were settled with the signing of union agreements.

A number of more or less extensive strikes followed these first strikes for union recognition in the automobile industry. Most of them lasted less than a day and were not authorized by the union, the strikers contending that the company was not living up to its agreement of nondiscrimination and recognition of the shop steward for settlement of grievances.

Steel industry.—In March 1937 the United States Steel Corporation agreed to recognize the Steel Workers' Organizing Committee. This action on the part of the largest steel company encouraged a number of smaller companies to grant union recognition without strike action. A 36-hour strike at the Jones & Laughlin Co. in May was settled when the company agreed to an election under the supervision of the National Labor Relations Board. The election, held several days later, resulted in the recognition of the SWOC.

A serious strike broke out on May 26 at the Republic Steel Corporation, Youngstown Sheet & Tube Co., and the Inland Steel Co. This strike against so-called "Little Steel" spread by June 12 to the Bethlehem Steel Corporation. It involved 90,000 workers and extended into seven States—Illinois, Indiana, Maryland, Michigan, New York, Ohio, and Pennsylvania. It was marked by much violence. Local police forces were augmented with special deputies, and the National Guard was called into several localities. At least 15 strikers lost their lives and many more were injured. Several governors of the States affected intervened and the Secretary of Labor appointed a special mediation board. All failed to bring about a settlement, the companies definitely refusing to sign any semblance of an agreement. By July most of the plants were reopened with a sufficient number of workers to take care of production requirements. (A year later the National Labor Relations Board found that several of these companies had violated the NIRA by engaging in espionage, by causing union organizers to be arrested and beaten, by threatening the discharge of union members, by dominating a rival employees' organization, and by other acts. The Board's orders that these companies should reinstate with back pay all former employees who were involved in this strike except those who had been convicted of violence were upheld by the Supreme Court.)

During the steel strike the United Mine Workers of America called a strike against mines owned by these steel firms in order to cut off their coal supply. These mines, in which about 10,000 workers were employed, were shut down for about a month.

*Sit-down strikes.*⁶—One of every ten strikes occurring in the United States in 1937 was a so-called sit-down strike, in which all or part of the workers involved remained at their places of work for one or more working days after stopping work. The number of these sit-down strikes was 477 out of a total of 4,740. There were numerous additional sit-down strikes, which lasted only a few hours until settlements were agreed upon and work resumed, but the number of these is not known, as the Bureau does not attempt to record strikes lasting less than 1 day. There were other cases where the strike continued but the workers left the plant after sitting down only a few hours; since these differ little from the usual walk-out or lock-out they are not included as sit-down strikes.

In the 477 strikes in which the sit-down or stay-in features lasted for a day or more, there were 398,117 workers involved. It is estimated, however, that only one-third of these workers actually stayed in the plants.

In 293 of the 477 strikes all or part of the workers stayed in the plants after working hours. In some instances, all of the workers involved stayed; in others, most of them walked out and left only a small number inside; in still others the workers reported for "sit-down" duty in shifts. Many of the sit-down strikes were authorized or at least endorsed by union leaders, but a larger number were the spontaneous action of rank and file workers, some of whom were not union members at the time they participated.

The wave of sit-down strikes occasioned a great deal of adverse publicity. Although a few nonparticipants defended the theory of the sit-down method as tending to be less violent than the traditional picketing strike, the general public considered it to be unlawful seizure of private property and an ominous threat of general social disorder. After the first upheaval in getting the unions recognized, most of the union officials themselves discouraged such spontaneous action.

Sit-down strikes reached their height in March 1937, when 170 occurred. From September to the close of the year they averaged less than 10 a month. In 1938 there were only 52 sit-down strikes during the entire year, only 6 in 1939,⁷ and none in 1940.

Strikes in 1938

In 1938 there were only half as many strikes as in 1937, with only about one-third as many workers involved. The proportion of union organization and recognition strikes declined somewhat, whereas the number of strikes in protest against wage cuts increased. Also, there were more strikes over questions of seniority and lay-off policies. The latter disputes were frequently the result of too casual or ambiguous seniority clauses in the agreements. When the lay-off test came, during the recession in business early in 1938, managers and workers differed as to interpretation.

⁶ For a more detailed report of the 1937 sit-down strikes see *Monthly Labor Review*, August 1938 (p. 360).

⁷ In February 1939 the U. S. Supreme Court expressed its opinion on the sit-down strike in a case where it invalidated an award by the National Labor Relations Board that persons participating in such a strike should be reinstated even though it was proven that the employer's unfair labor practices had been the cause of the strike. " * * * The employees had the right to strike but they had no license to commit acts of violence or to seize their employer's plant. * * * The seizure and holding of the buildings was itself a wrong apart from any act of sabotage." (*National Labor Relations Board v. Fansteel Metallurgical Corporation*, No. 436, Feb. 27, 1939 (306 U. S. 240).)

Certain sections of automobile manufacturing were much harassed by labor strife and confusion during 1938. The reluctance with which some of the companies had accepted the collective-bargaining relationship the year previously was responsible for some of the continued strain. The growing factionalism within the union, however, was not favorable to the building up of stable employer-union relationships. (This internal dissension culminated in an open break in the spring of 1939 when the ousted president formed another union which was later granted a charter by the A. F. of L. Elections held by the National Labor Relations Board in subsequent months determined the United Automobile Workers (C. I. O.) as the bargaining agency for most of the industry, although the United Automobile Workers (A. F. of L.) won elections in some plants.)

West coast.—Probably the most severe crisis which organized labor faced during 1938 was on the west coast. During 1937 and the early months of 1938 there had been increasing tension between the various groups of employers and unions, as well as between various unions. Associations of agricultural and industrial employers were organized in order to aid their members in time of strike and to combat the increasing unionization in their communities. The situation was intensified by the numerous disputes between rival unions and leaders, particularly those in the Washington and Oregon lumber industry, and among warehouse and maritime workers all along the coast.

A preliminary test was provided in the several strikes and lock-outs which occurred shortly before the State elections, chiefly that of the warehousemen (C. I. O.) and retail clerks (A. F. of L.) in San Francisco. In both instances union agreements had expired and employers had refused to negotiate for new agreements until the unions made certain concessions. The unions interpreted this attitude as an unwillingness to bargain and an intention to get an open-shop campaign under way before the November elections. All realized that the outcome of these strikes would have a major influence on whether or not the longshoremen's agreement, expiring September 30, would be peacefully renewed. If not, a conflict even more serious than that in 1934 was predicted.

Faced with serious threats from organized employers, rival unions laid aside their factional disputes and united in a common program of defense. Toward the latter part of October, compromise settlements were effected on the particular issues involved in the warehousemen's and retail clerks' disputes. A new agreement between the waterfront employers and the longshoremen was signed without a strike. Organized labor considered the outcome of these disputes as significant victories since, in spite of strong opposition, the unions had been successful in maintaining a collective-bargaining status.

Strikes in 1939

The year 1939 was characterized by a moderately large number of small strikes, though there were occasional stoppages of large proportions. There were fewer strikes (2,613) in 1939 than in the preceding 2 years, but the number of workers involved (1,171,000) and man-days of idleness (17,812,000) exceeded those in 1938, largely because of the bituminous-coal stoppage. Excluding the coal dispute, there were about the same number of workers involved and man-days of idleness in 1939 as in 1938.

About 43 percent of the workers involved and 51 percent of the idle man-days were due to the three largest disputes of the year—the bituminous-coal stoppage in April and May, the WPA stoppages in July, and the Chrysler dispute in October and November.

*Bituminous-coal stoppage.*⁸—With the expiration of agreements between operators of bituminous-coal mines and the United Mine Workers of America, at midnight, March 31, 1939, work ceased at mines in the Appalachian area and later, in April, throughout the industry. The union had been willing to renew the old contract provided the operators would consent to one of two changes—the elimination of the penalty clause, or exclusive recognition and the union shop. The penalty clause in the old agreement imposed a penalty of \$1 per man per day in most districts for any strike or lock-out in violation of the agreement.

On May 11 when no agreement had been reached as requested by the President, the union issued orders to its outlying district presidents to arrange 2-year agreements in areas where operators would accept the union-shop provision which the Appalachian operators had thus far rejected. Finally, when an agreement covering the entire Appalachian area appeared hopeless, it was decided that individual operators and association members willing to do so could sign the all-union agreement. During the following weeks agreements were signed peacefully by all the remaining associations and individual companies except the Harlan County (Ky.) Coal Operators Association.

In Harlan County the National Guard was called out when some companies tried to operate their mines without signing the new agreement. Work in some mines was gradually resumed as operators signed individually. Finally, on July 19, the Harlan County Coal Operators Association signed an agreement which omitted the penalty clause but did not provide for the closed shop. With the exception of a part of the Illinois fields under contract with the Progressive Mine Workers, this brought practically the entire bituminous-coal industry under agreement with the United Mine Workers of America.

WPA stoppages.—The widespread stoppages on WPA projects in July 1939 were in protest against the abandonment of the former wage policy in the new relief appropriation bill passed by Congress for the fiscal year 1939–40. The building-trades unions were especially opposed, as they felt that abandonment of the prevailing-wage principle would affect union wage scales on private construction as well as on WPA projects. In many of the cities the protest stoppages of work on WPA projects were led by the local building-trades council.

Immediately after the stoppages occurred, the Work Projects Administration announced that it would enforce its regulation that all workers who absented themselves from work for 5 days would be dropped from the WPA rolls. The result was that many workers were out only a short time, returning to work within the 5-day limit. Thousands of others remained away more than 5 days and were dropped from the rolls. As workers returned in some places, new protest stoppages developed in other localities so that the demonstra-

⁸ For a more detailed description of the bituminous-coal stoppages, including the text of the new agreement, see *Monthly Labor Review*, September 1939.

tions continued until after the middle of July. Considerable violence developed in connection with the protests in Minneapolis, and a number of persons were arrested and fined.

The number of WPA workers who were idle for 1 or more days in connection with these stoppages was about 123,000. Many more than this were idle for a part of a day, as a result of mass meetings and short demonstrations which were held in protest against the new WPA regulations.

Chrysler dispute.—In elections held in September, the U. A. W. (C. I. O.) won a large majority in each of 11 of the 13 plants in operation. The U. A. W. (A. F. of L.) obtained a majority at the Evansville, Ind., plant, and in Kokomo, Ind., a majority voted for neither union.

In October the company accused the C. I. O. union of conducting a slow-down strike in one of the Dodge plants and discharged a number of workers as a disciplinary measure. Within a day or two some 20,000 men were idle at the Dodge plants, the company contending that the stoppage was due to a union-ordered slow-down, and the union claiming it was a lock-out after an attempted speed-up on the new 1940 models. Within a few days other Chrysler plants were closed, affecting a total of approximately 50,000 workers.

As negotiations to settle the dispute and draft a new contract got under way, the union demanded joint study and control of production standards, a wage increase of 10 cents per hour, the union shop, provision for arbitration of grievances, and seniority rights. In return, the union promised that there would be no strikes during the term of the agreement. While conferences were under way the company received a request for recognition of the United Foremen's and Supervisors' Union, affiliated with the C. I. O., and immediately demanded that this request be withdrawn before negotiations could proceed. A few days after the foremen's union withdrew its request for recognition, a compromise agreement was signed.

Strikes in 1940

In spite of the widespread industrial expansion and increased employment in 1940, strike activity during the year was at a comparatively low level. The number of strikes (2,508) was practically the same as in 1939, but the number of workers involved (576,988) was less than half as many as were involved in strikes the preceding year, and the number of man-days of idleness (6,700,872) was less than two-fifths as great.

There were no extremely large strikes in 1940, the three largest involving about 15,000 each. There was no great degree of concentration of strike activity in any particular industry. The industries with the greatest amount of time loss because of strikes were: Retail trade, building construction, electrical machinery, machine-shop products, lumber, and furniture.

Half of the strikes ending in 1940, including one-third of the total workers involved and two-fifths of the total man-days of idleness, were primarily over issues of union recognition, discrimination, closed or union shop, and other union organization matters. Wage and hour issues were the primary cause of about 30 percent of the strikes,

including two-fifths of the total workers and somewhat less than one-half of the total idleness. The remaining strikes were due to protests against physical working conditions, grievances over job assignments, work loads, pay methods, and other matters.

Strikes and the defense program.—Although strike activity was at a comparatively low level during the early part of 1940, there was an upward trend during the fall and winter as the defense program brought increased employment and business activity. Many of the major strikes were primarily for union recognition or in protest against suspected union discrimination. Such were, in effect, a resumption of the 1937 organization drives which the unions had been forced to curtail during the subsequent business recession. The proportion of wage and hour strikes remained about the same as previously, due in large part to the fact that cost of living increased very slightly in 1940 and the Wage and Hour Act precluded lengthening of hours except at overtime rates.

There was considerable expression of public concern over any strikes which affected the defense program, even though the causes of individual disputes revealed no new symptoms and the total number of man-days of idleness during strikes was somewhat less than in the preceding years. No data are available which reveal an accurate measure of the incidence of the strike activity on the defense program.⁹

In 11 industries closely related to the defense program, 1 person in every 17 employed was involved in a strike sometime during 1940. The proportion varied greatly, however. In the machine-tool and engine-manufacturing industries only 1 person in 97 was involved, while in shipbuilding 1 out of every 6, and in aircraft manufacturing 1 out of 14 was involved in strikes. One day's time was lost during strikes in these 11 industries for every 390 days worked.



Strike Restrictions in Union Agreements¹

To safeguard against possible disruptions, employer-union agreements generally provide machinery for the adjustment of disputes arising under the agreement. Furthermore, to avoid interruptions of work after the termination date, most agreements require that negotiations looking toward a new agreement shall be initiated a specified number of days before the existing agreement expires. In the case of continuing agreements, it is usually provided that the party which wishes to have a change in the terms must give a designated notice to the other party before other action may be taken.

When an agreement is about to expire, the basic terms of employment, such as those covering wage levels, hours, and working rules, are open for negotiation. Normally, both parties desire to negotiate new terms without a stoppage of work. Where agreements have been in force for some time, it is taken for granted by both parties that a new agreement will be signed. Notice periods are provided in the vast majority of agreements for the purpose of allowing time for the

⁹ See Monthly Labor Review, April 1941 (p. 945), for a brief discussion of the factors involved in any consideration of the effect of strikes on defense industries, as well as for detailed statistics of strikes in 11 industries closely related to defense.

¹ From Monthly Labor Review, March 1941 (p. 546).

negotiation of new terms. Such periods, ranging in various agreements from 10 to 90 days, provide an opportunity for the parties directly concerned to arrive at an agreement themselves or to call in an outside agency, such as a Government conciliator, if they cannot come to a mutual understanding. If an outside person intervenes, he does not ordinarily act as an arbitrator. His function is to clarify the points in dispute, to furnish pertinent information, and to induce one party or both to make such concessions as are necessary for settlement. His efforts are directed toward getting the representatives of the employer and union to resolve their own differences.

A notice period for the purpose of negotiating a new agreement or changes in an existing agreement is not a guaranty against strikes or lock-outs, even when an outside agency intervenes. The conciliator's efforts to bring agreement may fail and one of the parties may decide to exert its economic pressure rather than to accept the terms of the other party. Nevertheless, the notice or waiting period affords a means for the negotiation of wages, hours, and working conditions without stoppages of work.

Entirely different is the problem of settling disputes arising after an agreement is negotiated and in force. To avoid a disruption in the working relationship after an agreement has been negotiated and while it is in effect, most employer-union agreements provide that questions over its interpretation and application shall be submitted to a neutral person or agency for final determination if the parties cannot reach an understanding through negotiation.² The absence of such an arbitration provision usually reflects immaturity in the collective-bargaining relationship. Where agreements have been entered into year after year, both company and union have found that it is to their advantage to have well-defined procedures established for the final settlement of all questions which may arise while the agreement is in effect. In a few cases the agreements specify that certain matters are not subject to arbitration. Disputes over such matters may be settled through negotiations; if they are not, they present possible danger points in the maintenance of peaceful industrial relations even while an agreement is in effect.

Although a majority of agreements provide for the selection of the arbitration board after negotiations have failed, the most stable arrangement is that specifying a board of arbitrators or an impartial chairman to function throughout the life of the agreement. The functioning of permanent arbitrators throughout the agreement permits the supplementing of the agreement provisions with a body of decisions which, generally serving as precedents, will tend to prevent the occurrence of similar grievances in the future. In the absence of permanent arbitration machinery, when the employer and the union must agree upon the choice of an arbitrator after negotiations have failed, there may be a situation of mutual distrust in which agreement upon an arbitrator is difficult. This difficulty is overcome when the agreement refers the selection of an arbitrator to a disinterested third party if the employer and the union cannot agree within a reasonable time.

² See Monthly Labor Review, February 1940 (p. 286) for a description of the various procedures which employers and organized workers have established for the settlement of their grievances. See also Monthly Labor Review, November 1939 (p. 1023) for a summary of the governmental machinery provided for adjustment of labor disputes.

Correlative to provisions for arbitration, are provisions restricting stoppages of work during the life of the agreement. The most common provision completely prohibits work stoppages of any nature. Many agreements merely restrict the conditions under which a strike may take place. In a few industries where bargaining is generally conducted with employers' associations, the strike has been accepted as a means of enforcing the agreement against recalcitrant members of the association. In such cases strikes are permitted for enforcement purposes and do not constitute a violation of the agreement.

Aside from such specific exceptions, a number of agreements prohibit strikes only until negotiations under the agreement have been exhausted. These are usually found in agreements which do not provide for arbitration, since the unions generally refuse to give up the right to strike unless there are adequate safeguards, otherwise, for the enforcement of the agreement and the adjustment of grievances.

The provisions in agreements which are designed to discourage stoppages of work are described in detail in the March 1941 issue of the *Monthly Labor Review* (page 546) for the following industries: Aircraft and parts, aluminum, electrical equipment, iron and steel, longshore, machine tool, marine transport, metal mining, smelting and refining, rubber, shipbuilding, trucking.



Compensation for Unemployment During Industrial Disputes¹

The unemployment-compensation laws of all States include, among the types of unemployment which are not to be compensated, unemployment caused by industrial controversies. But the reasons for disqualifying a worker if his unemployment has been caused by a labor dispute differ somewhat from those which have motivated the introduction of other types of disqualification. Disqualification for refusal of suitable work, leaving without good cause, or discharge for misconduct is based on the fact that the worker's unemployment has been caused by his volitional behavior and not by circumstances connected with the conditions of the labor market. The factor of individual behavior does not appear to be of primary importance, however, in the imposition of the labor-dispute disqualification in the various State laws. Under the laws of most States it is at least doubtful whether a worker can obtain relief from this disqualification upon the claim that he did not actively participate in the dispute. Decisions of the State tribunals passing upon such claims express conflicting views on this issue. This is due to the different wording of the disqualification provisions in the several laws as well as to the different interpretations made by the tribunals.

Under most State laws the disqualification for unemployment compensation applies also in cases of lock-out, in which the worker's unemployment is caused by the employer's decision. Lock-outs are expressly excluded from the concept of "labor dispute" by the law

¹ From article by K. Pribram, of U. S. Bureau of Employment Security, in *Monthly Labor Review*, December 1940 (p. 1375).

of Kentucky and through implication by the laws of California, Colorado, Utah, Ohio, and the District of Columbia. The meaning of the term "lock-out" has been defined in an Ohio decision as follows: "Lock-out is a cessation of the furnishing of work to employees in an effort to get for the employer more favorable or desirable terms."

Among the reasons which have been advanced for including labor disputes among the disqualifications is the fact that payment of benefits to workers involved in a labor dispute would amount to subsidizing one party to the dispute and would thus impair the neutrality of the unemployment compensation agency. Of far greater importance, however, is the fact that, under present conditions, actuarial difficulties would present serious obstacles to any attempt to include unemployment caused by labor disputes among compensable risks. In no State have the costs involved in compensating for unemployment of this type been taken into account in determining the probable expenditures from the funds. Inclusion of unemployment caused by labor disputes among the risks covered by unemployment compensation would no doubt require considerable and far-reaching modifications of the existing systems.

The Stoppage Clause

Following the example set by the British Unemployment Insurance Act, the so-called "stoppage clause" was inserted in the disqualification provisions of the "Draft Bill for State Unemployment Compensation" prepared by the Social Security Board in 1937. Hence the clause is found in many State laws which have adopted this pattern.² In accordance with this clause a worker is to be disqualified "for any week with respect to which the commissioner finds that his total or partial unemployment is due to a stoppage of work which exists because of a labor dispute at the factory, establishment, or other premises at which he is or was last employed."

The stoppage clause has been justified in terms of the principles underlying unemployment compensation. There are situations, however, in which the application of the stoppage clause is likely to meet with certain difficulties:

(a) The answer to the question of whether, in a given case, a "stoppage of work" has occurred depends largely upon the meaning attached to this phrase. In accordance with the views expressed by the British umpire and the tribunals of State agencies, "stoppage of work" means cessation of work which causes a distinct check in the production in the establishment owing to vacancies created by the strike. It does not mean a stoppage of work as it pertains to any individual employed there. However, "stoppage of work" does not mean that the plant or establishment of the employer need be shut down completely. The law does not state to what degree this stoppage must exist; therefore, any substantial stoppage must be considered sufficient to create the condition contemplated in the act.

² Originally, there were only 10 State laws which did not contain the clause—those of Alabama, California, District of Columbia, Kentucky, Michigan, New York, Ohio, Pennsylvania, Rhode Island, and Wisconsin. Because of certain difficulties involved in its interpretation and application, the clause has recently been eliminated from the laws of Florida, Idaho, Oregon, South Carolina, Tennessee, Alaska, Louisiana, and Oklahoma. However, in Michigan it has been held that the phrase "labor dispute actively in progress" imports a stoppage of work in the establishment.

No stoppage of work is commonly held to exist, therefore, when all places have been filled which are necessary to carry on the normal activities of the establishment or the plant. If a certain interruption of business has occurred, however, the question may arise whether the stoppage was "substantial" or "appreciable." Such an appreciable stoppage has been held to exist when the decrease in production amounted to 20 percent; or when production was continued only under temporary arrangements which would be inadequate under normal conditions.

(b) In a number of cases the question has been raised whether and to what extent, in fact, the stoppage was due to the labor dispute and not to other causes, such as slackness of business, or temporary closing down of the plant for repair purposes. Quite generally it has been held that no disqualification applies when employment has ceased to be available for the claimants at the plant where the stoppage occurred. A stoppage of work which was due originally to a labor dispute might cease to be cause for disqualification if a new cause intervened, such as a general depression in the trade, difficulty experienced by the employer in recovering trade lost during a dispute, lack of raw material because of previous cancelation of contracts, and the like.

(c) Finally, it may be doubtful in specific cases whether a causal relationship exists between a stoppage caused by a labor dispute and the claimant's unemployment. Thus in one case it was decided that, although prior to a dispute a number of workers had been laid off for an indefinite period because of "lack of orders," a subsequent stoppage caused by the dispute had resulted in the unemployment of such workers as could have returned to work, in accordance with the seniority rule, upon the reopening of the mill. Similarly, in case of a worker laid off for lack of work, who is given a definite date for return, if a strike occurs subsequently and the strike period coincides with or includes within its limits the date of definite return, the unemployment has been held to be due to the strike, but only from the day on which claimant was scheduled to return to work. However, if a worker has been laid off indefinitely prior to the stoppage and it does not appear that he would have been recalled to work during the period of the stoppage, benefits have been allowed on the ground that his unemployment was not attributable to the stoppage.

Laws With No Stoppage Clause

Under the State laws which do not contain the stoppage clause, disqualification for unemployment compensation applies, as a rule, when a direct causal relationship is found to obtain between the worker's unemployment and a labor dispute which exists or "is in active progress" at the establishment where he was last employed. The laws of New York and Rhode Island use the term "industrial controversy" instead of "labor dispute in active progress" and their disqualification provisions are very strict—8 and 10 weeks of "extended waiting period," respectively. Under such laws the causal relation between the dispute and claimant's unemployment may terminate long before the termination of the dispute or before the end of the flat disqualification period, and yet the disqualification continues.

In interpreting provisions which directly relate the disqualification to the labor dispute, some difficulties have arisen in deciding upon the period during which the dispute exists or, as some law put it, is "in active progress" or continues. Doubts may also arise as to the existence of a causal relationship between the labor dispute and the claimant's unemployment. No disqualification is imposed when it can be shown that the worker's unemployment is due to causes other than the dispute, particularly to lack of work. In such cases it has frequently been considered irrelevant that the claimant participated in picketing. Generally, the principle has been recognized that no causal relation exists between a dispute and a worker's unemployment when the employer-employee relationship had been definitely terminated prior to the beginning of the dispute. The application of this principle does not seem to have been affected by the fact that the discharge had been motivated by the worker's union activities. However, it has been held repeatedly that where, immediately following the discharge of a worker, other workers went on strike for the purpose of compelling his reinstatement, the worker was himself thereby involved in the dispute and was subject to disqualification. It is doubtful whether, in cases in which the discharge of the claimants has been instrumental in bringing about the dispute, a causal relationship can be held to exist between the controversy and their unemployment. In fact, in other decisions dealing with cases of the same type, such causal relationship was not found to obtain and benefits were allowed accordingly.

Relief From the Disqualification

Stoppages caused by labor disputes are frequently instrumental in causing unemployment of workers who have no concern nor interest in the dispute. Hence the large majority of State laws contain provisions designed to give relief from the disqualification for unemployment compensation to any claimant if it appears that as an individual he was not participating in, financing, nor directly interested in the dispute, nor indirectly interested in it through actions of individuals belonging to the grade or class of which he was a member. Also, under most State laws a second type of relief is provided for workers employed in separate departments other than those in which the dispute is going on, even though on the same premises, provided that the work of these departments is commonly conducted as a separate business on separate premises.³

The intentions underlying exceptions of this kind have been set forth in a British umpire's decision which pointed out that it was the intention of the legislation to give relief to those persons who are deprived of work by a dispute in which they have no concern nor interest and to no others. But, "a person who is not directly interested in a dispute may very well have an interest not very remote." For instance, if a dispute arises from a demand by a craft union for increased wages to be paid to its members, the workers who are

³ Only in nine States are no such exceptions provided for; these States are Alabama, California, Delaware, District of Columbia, Kentucky, New York, Ohio, Pennsylvania, Wisconsin. However, in a ruling issued May 4, 1938, by the Unemployment Reserves Commission of California, the provisions of 56 (a) of the California act, "If he left his work because of a trade dispute," was interpreted as though the two clauses mentioned above had been explicitly included in the act. The ruling was reproduced in 1963 Calif. A., but has subsequently been rescinded.

directly interested are the members of the union, but other men following the same craft or doing the same kind of work for the same employer would probably get the benefit of any increase granted to the members of the union, and they would get it because they and the disputants were all ordinarily engaged on the same terms to do the same kind of work, and in that sense belonged to the same grade or class of workers. Accordingly, the intention of the provisions under discussion seem to be "to exclude from benefit, in addition to the workers who are directly interested, those who are indirectly interested by reason of the terms and condition of their employment being the same as those of the persons who are directly interested."

The decisions of the American tribunals have been influenced by similar reasoning. Quite commonly no direct interest was assumed to exist when the outcome of the dispute did not affect the hours of work, wages, or other conditions of the work of the claimants. Direct interest has also been held to obtain in jurisdictional controversies in which the issues of the dispute included the right of becoming the bargaining agent for the claimant's occupation.

These decisions indicate that a worker may be directly interested in a labor dispute without participating in it; on the other hand, he may participate in a labor dispute without being directly interested in it. So-called sympathetic strikes are cases of the latter type.

Industrial Health

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Federal and State Agencies Concerned With Problems of Industrial Health

Several branches of the Federal Government are concerned with questions of industrial health and harmful working conditions. Chief among these agencies is the Division of Industrial Hygiene in the National Institute of Health. Other agencies with important functions in this field are the Bureau of Mines, Department of the Interior; the Division of Labor Standards, Department of Labor; and the Farm Security Administration, Department of Agriculture, which has been active in providing medical services for farm workers and their families. Studies and investigations by these agencies cover industrial poisons and other hazards in different industries; dust diseases, particularly silicosis; effects of fatigue; statistical studies of sickness among industrial workers; and problems of medical care.

A few of the States have industrial hygiene divisions equipped to study the effects of employment upon health. These divisions investigate specific hazards as they arise in industries in their States, publish the results of their investigations, and cooperate with industries in improving working conditions. Included in such bureaus are the division of hygiene which is under the department of labor in New York; the division of safety and hygiene, under the industrial commission in Ohio; the bureau of hygiene, sanitation, and mine inspection in the labor department in New Jersey; and the division of occupational hygiene in the department of labor and industries in Massachusetts. In some States the industrial hygiene problems are handled by the State board of health.



INDUSTRIAL DISEASES

Program for Prevention and Compensation of Silicosis ¹

That silicosis, though perhaps not curable by any means at present known to medical science, is definitely preventable, and that, as an occupational disease, it must be made compensable and brought within the control of governmental regulatory and administrative agencies, are the conclusions of groups of industrial physicians, engineers, insurance attorneys and experts, State and Federal Government administrators, and labor officials, appointed by the Secretary of Labor to study the problem of silicosis. The committees representing these various groups presented their findings and recommendations at the Second National Silicosis Conference held at the invitation of the Secretary of Labor on February 3, 1937, in Washington. These committees had been appointed at the first National Silicosis Conference called by the Secretary, which met in Washington in 1936.

¹ From the Monthly Labor Review, April 1937.

Nature and Extent of Silicosis

Physicians generally agree that silicosis, in layman language, is a disease of the lungs, caused by breathing air containing silica dust, in which the normal lung tissue is replaced by fibrous or scar tissue.

Silica dust is found in many industrial operations, but the hazard is acute only in such industries as metal mining; anthracite mining; quarrying, drilling, and tunneling in granite, gneiss, and sandstone; smelting and refining; foundries; potteries; glass works; stone-products industries; grinding; buffing; and sandblasting.

Of the 49,000,000 workers in the United States, only 1,000,000, or 2 percent, it is estimated, are in any way exposed to the hazard of silicosis. About half of this number, or 1 percent of the total number of workers in the country, are exposed to a serious hazard, and approximately 110,000 of these have silicosis in some degree. Medical examination of men actually at work indicates that between 4,000 and 5,000 workers are seriously affected by the disease, in addition to those already permanently detached from their employment by reason of disabling silicosis.

Contrary to popular belief, silicosis is slow to develop. Usually it takes 7 years or more of exposure to silica dust for a worker to contract the disease. A few cases that have been known to develop in as short a period as 1½ years occurred under extreme and unusual conditions. On the other hand, many workers have labored under ordinary exposures to silica for more than 30 years without demonstrating any trouble whatever that could be diagnosed as silicosis.

Silicosis Prevention

Silicosis can be prevented in three general ways: First, by preventing the creation of silica dust; second, by preventing the dispersion of dust into the atmosphere of a working area; and third, if it is impossible to apply the first two methods, by the use of personal protective equipment such as respirators, to prevent the inhalation of the dust.

In carrying out a prevention program, many agencies must cooperate. In the view of the committees studying the problem, the employer is called on to do most of the work and to spend most of the money. But his work and money will never accomplish the maximum results unless the worker is willing to cooperate and carry his share of the responsibility for helping to control dust and for using the personal protective equipment.

In addition, physicians can play a definite part in preventing silicosis, as can also engineers, insurance companies, legislators, administrators, and others.

The reports of the conference committees on engineering control and medical control recommended specific procedures for attacking the problem. Summaries of these recommendations follow.

Survey the working conditions.—Any employer who has reason to believe that his workers are exposed to the hazard of breathing silica dust should make a survey of the working conditions to determine the severity of the hazard and what needs to be done to decrease it.

Secure information on best procedure.—Before formulating a program for decreasing the silicosis hazard, the employer should secure

the best information obtainable. Usually he can obtain valuable data from the leaders in his industry, perhaps from the codes prepared by certain industries, from his State bureau of industrial hygiene, and from other sources.

Design plant for dust control.—Much can be accomplished through design, when new buildings are contemplated or when old buildings are to be remodeled. Structural projections and ledges may be minimized, to prevent the accumulation of dust. Interiors should be so constructed that they may be easily cleaned by washing, hosing, vacuum cleaning, or brushing.

Provide building ventilation.—Special facilities for natural or mechanical ventilation may help to eliminate dust, but usually cannot be relied upon to provide complete protection in dusty operations.

Store dusty materials in dusttight bins.—Dusty materials should be stored in dusttight bins, tanks, or enclosures, but each structure of this type should be provided with a breather or vent stack—perhaps with an exhaust fan in the stack—to permit the air displaced during loading to be carried outside the building.

Enclose material-handling equipment.—Excessive dust created by material-handling equipment can usually be confined by housing, and removed by an exhaust system.

Isolate dusty processes.—Where possible, several or all dusty processes may be isolated from the rest of the plant.

Provide wet methods of operations.—Water, oil, and other liquids may be used effectively—

1. To suppress dust at the point of origin in such operations as rock-drilling; handling, pulverizing, and milling rock and ore; grinding metal on grindstones; abrasive-wheel cutting of granite and sandstone.

2. To prevent the redispersion of dust that has settled on the floors, walls, and other surfaces such as in the granite industry and in foundries.

Establish good maintenance and housekeeping procedure.—Good housekeeping is unquestionably the cheapest single method of controlling dust, and maintenance goes hand in hand with it. The best equipment will not control dust if superintendents, foremen, and workers are careless and disorderly in their work.

Provide respirators.—The conference committees agree unqualifiedly that dust elimination is the primary consideration in solving the silicosis problem. When known methods of elimination are not applicable or are ineffective, respirators should be provided. Respirators, however, are recommended only as a last resort and for occasional exposure only. Under these conditions, rotation of personnel is advisable.

Instruct the workers.—The educational methods used in accident-prevention work may be followed to advantage in silicosis prevention.

Responsibility of the Worker

The cooperation of the workers is necessary if the hazard of silicosis is to be reduced to the minimum. The worker should realize that the safe practices recommended and the equipment provided are designed to prevent injury to himself and to his fellow workers.

The equipment should be used as directed and every effort should be made to maintain it in good working order.

Statutory Regulation

While the primary approach to the problem must be prevention and diminution of the hazard, the fact must be recognized that until silicosis has been wiped out, workers who now have the disease, as well as those who may contract it, must receive workmen's compensation just as do those workers who are injured in accidents.



Prevalence of Anthracosilicosis in Pennsylvania¹

The actual physical condition and the occupational and medical histories of 2,711 men employed in the anthracite fields of Pennsylvania formed the basis of a study made to determine the prevalence among mine workers of anthracosilicosis (miner's asthma), an occupational disease produced by mine dust.

The study was made by the United States Public Health Service, in cooperation with the coal operators, the United Mine Workers of America, and representatives of Pennsylvania State departments, particularly the department of labor and industry.² Three mines were selected for the survey, one in each of the three districts into which the anthracite field is divided by geological formation and methods of mining.

The men selected for study were divided into occupational groups on the basis of the extent of their exposure to free silica in the dust. Of the number examined, 361 who were exposed to less than 5,000,000 particles of dust per cubic foot of air formed a control group, as that dust content was the specified minimum used for statistical analysis. For the purpose of the study, a large number of atmospheric dust samples were taken which showed that, with the exception of rock-working operations, chamber and pitch mining, and chute loading were the dustiest occupations in the mining of anthracite. In connection with chute loading it was found that motormen, because of their presence during the loading process, were exposed to a heavy concentration of dust. The dustiest occupations on the surface were found in connection with a dry breaker where slate pickers and certain other workers were exposed to a very high dust concentration, while on the other hand workers in wet breakers were exposed to relatively low concentrations. For all the workers, it was found that 39 percent were exposed to more than 200,000,000 particles of dust per cubic foot, 62 percent to more than 50,000,000 particles, and 38 percent to less than 26,000,000 particles per cubic foot. These conditions were considered fairly representative of conditions which have obtained for a number of years in the anthracite mines, as, with the exception of very recent improvements in mechanical loading and

¹ From the Monthly Labor Review, October 1935.

² Pennsylvania. Department of Labor and Industry. Anthracosilicosis (Miner's Asthma). A preliminary report of a study made in the anthracite region of Pennsylvania by the United States Public Health Service. Harrisburg, 1934.

the use of wet methods of cleaning coal, working conditions were said to be about the same as those obtaining 20 or 30 years ago.

Physical-Examination Findings

The physical examination of the miners indicated that 616, or 22.7 percent, of the 2,711 active workers had anthracosilicosis, and that 106 of these were in the more advanced stages. The workers diagnosed as having the disease reported attacks of pleurisy, pneumonia, and severe colds more often than the group used as controls, while among a group of 135 anthracite workers who were totally disabled such illnesses occurred from 2 to 5 times as often as among the active workers who had anthracosilicosis.

The principal symptom of anthracosilicosis among the men examined was shortness of breath, frequently associated with productive cough, while in the more advanced cases there was found weakness, chest pain, gastric disturbances, and hemoptysis (spitting of blood), although fever and night sweats were seldom found. Other symptoms present among the affected workers were various lung changes such as prolonged expiration, change in the contour of the chest, decreased chest expansion, change in breath sounds, etc., and clubbing of the fingers. In cases in which infection complicated the condition and in those workers who were markedly or completely disabled there was frequently found loss of weight and strength, and cyanosis; persistent râles were invariably found, and there was often impairment of the heart. In the group diagnosed as having anthracosilicosis, at least four of the symptoms listed were present in each person in addition to other positive evidence disclosed by the history and the X-ray examination.

Tuberculosis as a complication of anthracosilicosis was found among 124, or 4.6 percent of the workers examined, the percentage of those affected with tuberculosis increasing among the men suffering from more advanced stages of anthracosilicosis.

Length of Exposure to Dust

In all the occupations except rock workers, less than 2 percent of the men developed silicosis, regardless of the amount of dust in the air, when the period of employment did not exceed 15 years. After employment from 15 to 24 years the prevalence of silicosis was much greater, about 14 percent of the men exposed to dust containing less than 5 percent free silica having anthracosilicosis when the dust concentration was 100,000,000 to 199,000,000 particles per cubic foot, 29 percent when the dust concentration was 200,000,000 to 299,000,000 particles, and 58 percent when the dust count was in excess of 300,000,000 particles. The rates were much higher when the period of employment exceeded 25 years, about one-fourth of the men in the nonmining occupations underground (rock workers excepted) showing evidence of anthracosilicosis. Among rock workers the disease developed more rapidly, about 13 percent having stage 1 anthracosilicosis when the working period was less than 15 years, while 9 out of 10 rock workers who had been employed more than 25 years had the disease. The dust to which these workers were exposed con-

tained about 35 percent free silica. Nearly all the regular miners and mine laborers who had worked where the dust count exceeded 300,000,000 particles had anthracosilicosis after employment for more than 25 years. Both the miners and mine laborers who had worked continuously at the coal face generally fared worse than those who had shifted occasionally from mining to other inside jobs.

There was little difference in the age distribution of the different groups with the exception of the rock workers who had the highest proportion of men at the younger ages. In spite of this favorable factor, however, a larger proportion of these workers had anthracosilicosis than was found in any other group.

Safe Limits of Dust Exposure

In order to determine the safe limits of dust exposure, the groups working in atmospheres containing less than 100,000,000 particles of dust were subdivided so as to determine as far as possible the quantity of dust which could be tolerated with no adverse effect upon health.

It appeared from the data available that an atmosphere containing less than 50,000,000 particles would result in a negligible number of cases when the silica content was less than 5 percent. The safe limit in the gangways when the dust contains about 13 percent free silica was tentatively set at 10,000,000 to 15,000,000 particles, while among rock workers who were exposed to about 35 percent free silica in the dust the safe limit appeared to be from 5,000,000 to 10,000,000 particles.

Measures for the Control of Dust

The report listed certain preventive measures which have been found to be effective in different industries. It is important to control dust at its point of origin, and, to effect this, thorough wetting by water is a general method in use. Wet methods may be used in almost all coal mining and processing and will result in a decided improvement in working conditions. Local exhaust ventilation has also been successfully employed in rock drilling in open excavations, and it is possible that it can be used in drilling operations in anthracite mines. If this type of dust-removal device is adopted, however, wet methods will still be necessary in coal- and rock-loading operations.

Adequate ventilation throughout the mines would eliminate much of the dust, an air movement of at least 50 feet per minute being regarded as desirable from the standpoint of eliminating "dead-ends."

Mechanical methods of loading coal have been found to contribute substantially to the solution of the dust problem. Since a large amount of dust is produced by blasting operations, especially in dry mines, the firing of shots should be done only at the end of the shift.

The sand used in haulageways to prevent slipping of the transport motors has been found to be an important source of silica dust, and thorough wetting of the roadbed would reduce this hazard. In order to detect cases of tuberculosis of the lungs and anthracosilicosis which have progressed far enough to endanger future work-

ing capacity, physical examinations including X-rays of the chest should be given all applicants for work and to all anthracite mining employees annually.



Experience With Silicosis in Wisconsin ¹

Wisconsin was one of the first States to legislate in the field of workmen's compensation, its law becoming effective in 1911. In keeping with the philosophy of the time, the law applied to accidental injuries and proceeded on the theory that compensation for such injuries should be considered as part of the cost of production.

In 1919 the law was amended to include as compensable injuries occupational diseases growing out of and incidental to the employment. The determination of what were occupational diseases was left to the industrial commission. The power of the commission to make such determinations as findings of fact, and apply to them the existing law, was upheld as constitutional by the Supreme Court of Wisconsin in 1924.²

Summarizing, the effects of the legislative enactments applied by the commission, as approved, modified, or reversed by the Supreme Court of Wisconsin, are as follows:

1. Prior to the amendment in 1935, to have a valid claim, a worker had to prove that his disability occurred while the employer-employee relationship existed.
2. Subsequent to the amendment in 1935, making the date of liability "the last day of work for the last employer whose employment caused disability," an employee who became disabled subsequent to discharge had a valid claim against the last employer whose employment was a contributing factor to his silicosis.
3. Disability prior and subsequent to the 1935 amendment must be demonstrable in wage loss, and not simply potential wage loss or medical disability.
4. The employer in whose employment a worker is at the time of his disability, or the last employer whose employment was a contributing factor in his disability, must bear the full cost of compensation even though that period of employment was not sufficiently long to cause the condition, it being sufficient if it contributed thereto.

As a result of these rules, the 1935 legislature enacted the following amendments to the compensation law:

1. A final award dismissing a claim because the disease had not as yet caused disability was not to be a bar to a claim for disability developed subsequently. (Sec. 102.18.)
2. In cases of discharge from employment because of nondisabling silicosis, thus occasioning wage loss, the commission may allow compensation not to exceed 70 percent of the employee's average annual earnings; but a payment of such a benefit was to bar any subsequent recovery from silicotic disability. (Sec. 102.505.)

The purposes of these amendments obviously were (1) to safeguard the right of an employee to be entitled to compensation when actually disabled, even though an earlier claim had been dismissed because no disability could be proved at the earlier date, and (2) to provide for a method of rehabilitating workers barred from following their regular occupations because they had contracted silicosis, even though not disabled. They represent an attempt to couple wage loss with the termination of employment, and thus to meet the standard prescribed by the supreme court.

¹ Abstract of an article by Max D. Kossoris, of the U. S. Bureau of Labor Statistics, and O. A. Fried, chief statistician of the Industrial Commission of Wisconsin, in the Monthly Labor Review, May 1937.

² *Schaefer & Co. v. Industrial Commission* (1924), 185 Wis. 317, 201 N. W. 396.

Incidence of Silicosis³

During the 17-year period from 1920 to 1936, 799 claims⁴ for disability resulting from silicosis were filed and passed upon by the Industrial Commission of Wisconsin. The 10 cases shown as settled by the commission in 1936, in the preliminary survey, fall short of the number of cases actually filed or settled during that year, estimated to be between 40 and 50. In 469 of the 799 cases compensation was paid, although sometimes in small amounts as compromises in what may be called nuisance cases fostered by ambulance-chasing attorneys. In 330 cases the claims were disallowed or, in some instances, withdrawn by the claimants themselves. Fully 55 percent of all compensated claims and 62 percent of those rejected were filed in the 2 years 1933 and 1934.

Distribution of Cases by Industry

The distribution of compensated claims for silicotic disability is shown in table 1 for eight general industry groups. The largest number of cases for any one group is in the machinery industries, with foundries second and stonecutting and quarrying ranking third. This distribution is not particularly significant, however, for the number of cases is obviously dependent upon the number of workers exposed to the danger of developing silicosis. But due to the fact that silicosis is a disease developed over a period of years, it is practically meaningless to compute any exposure rates on the basis of the number of workers exposed at any one time.

TABLE 1.—Compensated silicosis cases in Wisconsin, classified by industry, 1920 to 1936

Industry	Number of cases		
	Fatal	Nonfatal	Total
All industries.....	159	310	469
Mining.....	14	28	42
Stonecutting and quarrying.....	47	52	99
Allied stone industries.....	9	6	15
Enameled-ware industry.....	27	19	46
Foundries.....	14	87	101
Other metal industries.....	3	28	36
Machinery industry (including transportation equipment).....	36	89	125
Miscellaneous manufacturing industries.....	4	1	5

Distribution of Cases by Occupation

The 469 compensated cases have been classified by occupation in table 2. Molders headed the list with a total of 86 cases, 10 of which were fatal. Stonecutters followed with 69 cases, and of these, 29, or 42 percent, were fatalities. Sand blasters and sandblast-machine operators in foundries accounted for 57 cases, but 52 percent of these were deaths. The death rate of 58 percent for sand blasters, including two cases in the stone industries, was higher than that of any other occupation.

³ The statistical data upon which this discussion is based were obtained from a preliminary tabulation of a comprehensive survey of Wisconsin's silicosis experience by the statistical division of the Industrial Commission of Wisconsin.

⁴ A subsequent recheck has raised this figure to 893.

More than half of both fatal and nonfatal cases in the enameled-ware industry occurred to sand blasters, with 3 fatalities for molders. Most of the molder cases were in the foundry group. Also high in the foundry group was the laborer classification with 17 cases, 3 of them fatal, and unclassified occupations with 18 cases, of which 5 were fatal. In other metal industries, molders again accounted for 19 out of 36 cases. As in the case of foundries, the proportion of fatalities for this occupation was low, with only 1 out of 19 cases. Sand blasters, on the other hand, had 3 fatalities out of a total of 5 cases.⁵

In the machinery group, molders and chippers accounted for 25 and 24 cases respectively, out of a total of 125 cases of silicosis for all occupations. Four out of the 25 molder cases were fatalities, as were 8 out of 24 for chippers. Sand blasters accounted for 18 cases, but of these, 13 were fatal.⁵

Table 2 indicates that it is not necessary to work directly with materials involving free silica in order to contract silicosis. That nothing further than exposure is required is shown by the four cases concerning foremen and superintendents. In the reading of this table, however, the above comment concerning the indications of relative hazard is again in point. The filing of claims was influenced by various factors, among them the employment status of possible claimants, attitude of employers and insurance carriers, and activities of claim adjusters and lawyers.

TABLE 2.—Compensated silicosis cases in Wisconsin, classified by occupation,¹ 1920 to 1936

Occupation	Number of cases		
	Fatal	Nonfatal	Total
All occupations.....	159	310	469
Blacksmiths.....		1	1
Carvers, hand (stone).....	1		1
Chippers.....	12	20	32
Core markers, core blowers.....	2	7	9
Cutters (stone).....	29	40	69
Drillers, machine.....	1		1
Enamellers.....	2		2
Foremen, superintendents.....	1	3	4
Grinders, finish.....		6	6
Grinders, rough (machine shop).....	5	5	10
Grinders, snag, rough grinder hands, swing grinders.....		10	10
Laborers.....	10	22	32
Letterers and engravers (stone).....	2	1	3
Miners.....	14	28	42
Molders.....	10	76	86
Polishers, hand (stone).....	4		4
Polishers, machine (stone).....		3	3
Polishers (metal).....	1		1
Sand blasters and sandblast-machine operators (foundry).....	32	25	57
Sandblast-machine operators (stone).....	2		2
Sand dryers.....	1		1
Sand mixers.....	1	7	8
Shake-out men.....		5	5
Stone-crusher operators.....	2		2
Welders, acetylene cutters.....	1	5	6
Unclassified.....	26	46	72

¹ The data to be published by the Industrial Commission of Wisconsin also was to contain an analysis by length of exposure. Errors in the preliminary data made inadvisable the inclusion of such an analysis here.

⁵ Because of lack of space, the tabulations upon which these statements are based have been omitted.

Employment Status When Filing Claim

In 1933 and 1934, 168 out of 465 claimants, or 36 percent of the total for the 2 years, were unemployed due to lack of work. In 73 of these cases, compensation was paid. In 95 cases, the claims were disallowed, indicating that in perhaps one-third of the total cases in these 2 years workers filed claim in the search of some means of income.

Another high concentration of claims was in the group in which employment was terminated or refused because medical examinations indicated some stage of silicosis. There were 124 such claims in 1933 and 1934, more than one-quarter of the total claims filed during these 2 years. In 94 of these cases compensation was paid, and in 30 cases it was disallowed. The practice of discharging employees because a medical examination revealed silicosis, although rarely in a form producing total disability, appears to have been a boomerang, for such employees promptly filed claims for silicosis, and in 76 percent of these cases were able to prove actual disability and to collect compensation.

During these 2 years only 54 claimants were unemployed because of voluntary stoppage of work attributed to silicotic disability. In about half of these cases, compensation was paid. In the other half, compensation was disallowed, usually on the ground that whatever disability there was could not be attributed to silicosis.

The over-all picture for the 17-year period tells much the same story. Out of a total of 799 claims, only 29 were filed by workers still in the employ of the respondent employer. There were five claimants who were employed with an employer subsequent to the one against whom claim was filed, and four claimants were on relief work. In 36 cases, claims were filed by dependents of deceased workers, and in 11 of these compensation was denied.

Fully 190 cases, or nearly one-quarter of the total claims, were filed by workers unemployed because of lack of work. More than half of these cases were disallowed. In nearly again as many cases, 186 claims were made by workers who had been discharged or refused employment after medical examinations disclosed silicosis. In 70 percent of such cases compensation was paid.

In 177 instances claimants had stopped working because of disability. But nearly a third of their claims were refused compensation because the disability was held not due to silicosis. In 30 cases, unemployment was due to such causes as strikes, discharge for inefficiency, and other miscellaneous reasons. Claimants were given compensation in 18 such instances. In 142 claims, the employment status at the time of filing claim could not be determined from the records of the industrial commission.

Cost of Silicosis Cases

The amounts of compensation paid in compensated cases during the period from 1920 to 1936 are shown in table 3. Approximately one-third of the 469 cases were fatalities.

For these 469 cases \$1,614,648 was paid or awarded.⁶ Approximately 40 percent of this was paid in compromised settlements. About 28 percent, \$452,138, was paid as compensation for fatalities, and an additional \$18,735 for funeral expenses. Slightly in excess of \$400,000 was paid for permanent, and about \$119,000 for temporary, disabilities. The amount paid for medical aid was \$26,589, or 1.6 percent of the total paid for silicotic disability.

The number of claims for fatalities increased from 1 in 1920 to a maximum of 27 in 1934. That same year also saw the peak of non-fatal claims for which compensation was paid, 117.

TABLE 3.—Compensated silicosis cases in which payments were made in Wisconsin, 1920 to 1936

Year of first information to industrial commission	Number of cases			Payments for—							Average per case
	Fatal	Non-fatal	Total	Death	Perma-nent dis-ability	Tempo-rary dis-ability	Medi-cal care	Funeral ex-penses	Compro-mise ¹	Total ²	
All cases....	159	310	469	\$452,138	\$408,879	\$119,313	\$26,589	\$18,735	\$588,994	\$1,614,648	\$3,443
1920 ³	1	—	1	—	—	—	185	200	3,750	4,135	4,135
1922.....	3	1	4	6,529	—	5,639	95	200	3,350	16,813	3,953
1923.....	2	3	5	—	—	2,829	1,533	—	6,650	11,012	2,202
1924.....	7	2	9	16,366	—	2,147	511	600	12,441	32,065	3,563
1925.....	4	2	6	20,992	14,050	3,636	1,765	800	2,500	43,743	7,291
1926.....	4	3	7	15,711	2,500	12,703	742	600	1,550	33,806	4,829
1927.....	4	2	6	17,200	20,809	2,723	420	800	500	42,452	7,075
1928.....	9	1	10	36,205	1,950	4,982	3,120	1,350	6,800	54,407	5,441
1929.....	12	3	15	65,130	4,742	11,358	2,706	2,200	7,000	93,136	6,209
1930.....	17	3	20	68,004	—	14,695	4,073	2,795	15,800	105,367	5,268
1931.....	18	12	30	71,467	30,681	15,162	4,541	2,550	21,225	145,626	4,854
1932.....	24	16	40	55,443	46,219	28,670	2,043	2,640	58,440	193,455	4,836
1933.....	15	101	116	36,288	102,987	10,876	1,177	1,800	182,261	335,389	2,891
1934.....	27	117	144	32,272	80,063	1,534	1,299	1,400	191,226	307,794	2,137
1935.....	9	40	49	4,531	78,836	1,869	2,176	400	71,501	159,313	3,251
1936 ⁴	3	4	7	6,000	26,042	490	203	400	4,000	37,135	5,305

¹ It was not possible to separate the amounts paid as compromise into payments for various types of disabilities and medical and funeral expenses.

² More complete data showed a total of \$1,856,663 paid from 1920 through 1936.

³ No silicosis claims filed in 1921.

⁴ Data incomplete.

A comparison is given for the cost of all injury cases and silicosis cases in table 4 for the period from 1920 through 1934. The total paid as indemnity for 285,742 compensated claims was \$47,968,891. The total paid for 413 silicosis cases was \$1,393,990. The entire cost for all injuries, i. e., all indemnities plus medical aid, was \$63,201,928. The cost for silicosis cases was \$1,418,200. Whereas the average total cost per nonsilicosis injury was \$216.54, the average cost per case of silicosis was \$3,433.90—nearly 16 times as high.

Of interest also is the comparison of total silicosis cost with total all injuries cost. In 1920, the cost of silicosis claims filed during the year was 0.16 percent of the total cost for the year. The percentage climbed steadily, reaching 1.06 in 1928, 3.17 in 1931, 4.75 in 1932, 9.40 in 1933, and then declined somewhat to 8.80 in 1934. For the entire 15-year period, silicosis averaged 2.24 percent of the total cost.

⁶ Recheck of the preliminary data showed a total of \$1,856,663 paid for all silicosis cases from 1920 through 1936. The difference is accounted for mainly by the discovery of 94 additional claims.

But until 1931, for 11 years, the percentage remained at less than 2, and for 8 of these years, below 1 percent. Contrasted with these figures, the percentages for the 4-year period from 1931 through 1934 show very large increases. The most significant reasons for these increases no doubt were unemployment and the rather general practice of discharging employees for silicosis indicated by medical examinations.

TABLE 4.—Comparison of cost of all injury cases and silicosis cases in Wisconsin, 1920 to 1934¹

Year	Number of cases		Compensation		Cost of medical care		Total cost			Average cost per case	
	All injuries	Silicosis	All injuries	Silicosis	All injuries	Silicosis	All injuries	Silicosis ¹		Non-silicosis ¹	Silicosis
								Amount	Percentage of total		
Total	285,742	413	\$47,968,891	\$1,393,990	\$15,233,037	\$24,210	\$63,201,928	\$1,418,200	2.24	\$216.54	\$3,433.90
1920	16,246	1	1,970,513	3,950	569,571	185	2,540,084	4,135	.16	156.11	4,135.00
1921	15,898		2,257,255		661,562		2,918,817			183.60	
1922	16,705	4	2,410,529	15,718	746,429	95	3,156,958	15,813	.50	188.08	3,953.25
1923	20,941	5	2,794,998	9,479	924,032	1,533	3,719,030	11,012	.30	177.11	2,202.40
1924	22,766	9	3,047,147	31,554	1,153,332	511	4,200,479	32,065	.76	183.17	3,562.78
1925	21,137	6	3,490,021	41,978	1,100,852	1,765	4,590,873	43,743	.95	215.19	7,290.50
1926	22,177	7	3,725,860	33,064	1,122,624	742	4,848,484	33,806	.70	217.17	4,829.43
1927	20,473	6	3,662,406	42,032	1,114,056	420	4,776,462	42,452	.89	231.30	7,075.33
1928	21,818	10	3,885,850	51,287	1,250,216	3,120	5,136,066	54,407	1.06	233.02	5,440.70
1929	22,630	15	4,308,571	90,430	1,433,552	2,706	5,742,123	93,136	1.62	249.79	6,209.07
1930	20,070	20	4,447,141	101,294	1,398,338	4,073	5,845,479	105,367	1.80	286.29	5,268.35
1931	16,943	30	3,486,195	141,085	1,101,978	4,541	4,588,173	145,626	3.17	262.67	4,854.20
1932	16,195	40	3,126,912	191,412	945,953	2,043	4,072,865	193,455	4.75	240.14	4,836.38
1933	14,563	116	2,711,320	334,212	857,992	1,177	3,569,312	335,389	9.40	223.85	2,891.28
1934	17,180	144	2,644,173	306,495	852,550	1,299	3,496,723	307,794	8.80	187.19	2,137.46

¹ Data on all injuries apply to cases settled during the year. Silicosis data apply to settled cases tabulated according to year of filing of claim with industrial commission. The tabulation was made to disclose general trends, but is not to be taken as an accurate measure of annual silicosis cost relative to over-all injury cost, even though percentages to that end are given.

² To arrive at the nonsilicosis data, the silicosis data were deducted from the all injuries data.



Anthrax in the United States, 1919 to 1938¹

A report on anthrax incidence and fatality to the annual convention of the American Public Health Association in October 1939² presented a reanalysis of the data included in previous reports, re-grouping the data into three comparable 5-year periods covering the years 1919 to 1933, and gave new figures on the last 5-year period—1934 to 1938. Because of the difficulties met in obtaining complete records, the figures given are regarded as minimum rather than maximum, as there are undoubtedly still many unrecorded cases in the country.

¹ From the Monthly Labor Review, October 1940.

² American Public Health Association, Committee on Anthrax. Sixth report. A Twenty-Year Survey of Anthrax in the United States, by Henry F. Smyth, M. D. Washington, National Institute of Health, Division of Industrial Hygiene, 1939.

Incidence of Anthrax

In the 20-year period there were 1,683 cases, with 353 deaths, reported. The number of States from which anthrax was reported increased in each 5-year period, rising from 25 States in 1919-23, to 37 States and 3 Territories (the latter being included for the first time) in 1934-38. Over the entire period, only four States (Alabama, Idaho, Nevada, and South Carolina) and the District of Columbia, Alaska, the Philippine Islands, and the Virgin Islands, did not report any cases. No cases have been reported from New Hampshire in the last 10 years, none from Maine and Rhode Island in the last 9 years, and none from Virginia and Kentucky in the last 5 years. Washington and South Dakota reported their first cases in 1931, West Virginia in 1934, Wyoming and Oklahoma in 1935, Iowa and North Dakota in 1937, and Utah in 1938.

The States reporting the largest number of cases of anthrax in the 20 years were Pennsylvania, 264; New York, 219; Massachusetts, 171; Texas, 154; New Jersey, 122; California, 106; and Louisiana, 93. In Mississippi no distinction is made in the records between animal and human anthrax, but it is said that that State would probably be at or near the top of the list as regards number of cases. The industrial States of Pennsylvania, New York, Massachusetts, and New Jersey reported mostly tannery and wool anthrax, while the reports from Texas, California, Louisiana, and Mississippi were mainly of agricultural anthrax.

Fatality rates are still high, although the rate dropped from 22.4 percent in the third period to 16.3 in the last period. This was due almost entirely to a reduction in the number of cases in organized industries, in which earlier diagnosis and prompter treatments are provided and serum and arsenicals are more extensively employed.

Sources of Infection

Cases of tannery anthrax have fluctuated with economic conditions, as most of the cattle-hide tanneries are packer-controlled, and during a depression their raw material usually comes from healthy cattle slaughtered for food under Government supervision. In a period of prosperity, however, with greater demand for leathers, hides collected by traders throughout the country or on the ranges become a source of anthrax. Goatskins, which come from many countries, have always been a source of the disease.

The number of cases of wool anthrax showed a very decided increase in the second and third periods when, because of economic conditions, it might have been expected there would be a reduction. This increase is related to the establishment of a disinfecting station in Liverpool, England, in 1921, in which all wool which comes from anthrax infested regions must be disinfected, which resulted in the diversion of a considerable amount of the wool from such regions to the United States.

Over 80 percent of the wool anthrax in this country occurs in the States of New York and Pennsylvania. The reduction in the number of cases and deaths in the last 5-year period may have been due in

part to a probable decrease in imports from Egypt and Arabia and an increase in imports from South America and also to earlier diagnosis and more prompt and efficient treatment.

The number of cases in the hair and brush industries is hardly large enough to be interpreted, but has fluctuated with economic conditions, while the fatalities have definitely decreased. The figures for transportation, which includes longshoremen, truckers, etc., are also not large enough to be significant, but fatality rates have been high in every period among these laborers, probably because of failure to seek treatment in time.

The only other group with figures large enough to be significant is agricultural anthrax, which is contracted in many different ways from infected animals. The fatality rate for agricultural anthrax has fluctuated in the different periods, but has always been relatively higher than for industrial anthrax, largely because it occurs in areas where knowledge of the danger is not common and where skilled diagnosis and treatment are least available.

Site of Lesion

In 640 cases in which the site of the lesion was reported, 629 were external and 11 were internal. The great majority of the external lesions were on the most exposed areas, with the face, head, and neck leading, and the upper extremity almost as often involved. Multiple lesions occurred in only 9 of the reported cases.

Results of Different Types of Treatment

Operative treatment is on the decline. Of 499 cases, with 68 deaths, for which the treatment was reported between 1924 and 1938, only 36 cases were treated only by excision or incision and 11 of these resulted in death. In 312 cases treated with serum, there were 30 deaths; while in 27 cases treated with arsenicals there were no deaths.

In 27 cases treated with serum and arsenicals there were no deaths; in 52 cases treated with serum and excision there were 2 deaths; the 1 case treated with arsenicals and excision recovered; and there were no deaths in 4 cases treated with serum, arsenicals, and excision. No death occurred in the reported cases when the arsenicals were used, but the number of cases in which this treatment was employed is not large enough to warrant a recommendation that the use of serum be discontinued. It is felt that either serum or the arsenicals should be used and possibly, with the present experience, both methods in combination.

Prevention of Anthrax

In conclusion, the report states, it is evident there is still a decided need for prophylactic measures to be taken in the prevention of anthrax. If in the past 20 years hides and skins, which are the largest single cause of anthrax cases, had been properly sterilized, over 40 deaths and 10,000 days of lost time would have been prevented.

Agricultural anthrax, which threatens to take first place over tannery anthrax, can be prevented only through the activities of the

Federal Bureau of Animal Industry in seeing that the carcasses of animals dying of anthrax are disposed of properly, and of the State departments of agriculture in extending prophylactic inoculations of herds whenever cases of animal anthrax occur, as well as of all herds in infected areas.

The employment of plant physicians trained in the diagnosis and treatment of anthrax is recommended for all industries in which potentially anthrax-infested materials are used, and the importance of the prompt and thorough treatment of all skin wounds, however trivial, in such industries, is emphasized.



Lead Poisoning in 1936 and Earlier Years ¹

Statistics for this and other countries are consistently indicative of a marked decline in the occurrence of fatal lead poisoning. This decline is one of the most encouraging signs of progress in the sanitary administration of modern industry and in public health generally. For foreign countries the returns are not always precise, because of their varying practices of including or excluding deaths from nonindustrial sources. For the United States the returns include both occupational and nonoccupational deaths from lead poisoning.

The incidence of the fatal form of lead poisoning in this country declined from 2.5 deaths per million of population in 1900-1904 to 1.0 death per million in 1936, or 60 percent. In England and Wales the occupational death rate from lead poisoning declined from 2.5 per million in 1911-15 to 0.6 in 1936, or 76.0 percent. In Scotland the rate declined from 0.6 in 1911-15 to 0.2 in 1936, or 66.7 percent. Similar downward trends are shown for most of the other countries included in the present review.

The decline in industrial lead poisoning is largely the result of sanitary improvements in factory conditions, which during the last 20 years have continued on a progressive scale from year to year. Another factor is the improved economic condition of the workmen, who receive higher wages, work shorter hours, and represent a decidedly better type of physique than during earlier years. Chronic intoxication, which was once common among lead workers, has disappeared. Another factor of importance is the introduction of workmen's compensation, which places the financial responsibility for the occurrence of lead poisoning on the employers in the lead-using industries. There has also been considerable progress in the diagnosis of lead poisoning in both industrial and nonindustrial cases, and that treatment is making considerable progress, with the result that the incidence of fatal forms of lead poisoning is now decidedly less common than in former years.

¹ Abstract of an article by Frederick L. Hoffman, LL. D., in the *Monthly Labor Review*, February 1938. Dr. Hoffman is consulting statistician for the Biochemical Research Foundation of the Franklin Institute, Philadelphia, Pa. Earlier publications by him on lead poisoning include U. S. Bureau of Labor Statistics Bulletin No. 427; Health Survey of the Printing Trades, 1922 to 1925; U. S. Bureau of Labor Statistics Bulletin No. 488; Deaths from Lead Poisoning, 1925-27; and papers delivered at Health Congress of Royal Institute of Public Health, Ghent, Belgium, and at National Convention of American Public Health Association, 1932.

Fatal lead poisoning occurs not only in the lead-using industries but also in the general population, though only to a negligible degree in the latter case.

In most of the discussion following, it is assumed that the term includes all cases of lead poisoning, whether of industrial or non-industrial origin. In a special and extended inquiry for different countries and localities no other procedure is feasible at the present time.

Lead Poisoning in the United States

Cases Among General Population

Statistics for the United States registration area are available since 1900, when the area comprehended 40.5 percent of the total population. Since 1933 the registration area has included the entire population. During the 37 years 1900 to 1936, the rate per million for lead-poisoning deaths, including both occupational and nonoccupational, has varied from a maximum of 3.1 in 1903 to a minimum of 0.6 in 1932.

There were 130 deaths from lead poisoning in the United States in 1935; these included 36 painters, 6 paint workers, 10 laborers, 7 persons in lead-using industries, 8 farmers, 5 miners, 3 metal workers, 4 printers, 2 electric-storage-battery workers, 1 rubber worker, 1 worker in the automobile industry, and 13 whose occupations were unknown or miscellaneous. Among the nonoccupational deaths there were 6 women, and 14 girls and 14 boys under 18 years of age, a total of 34, leaving 96 deaths from lead poisoning strictly chargeable to industry.

The average age at death in the lead-poisoning cases in 1935 was 42.5 years, the ages ranging from 1 to 90. The average age for painters was 58.9 years and for lead workers, 61.8 years. During the 11 years 1925-35, there were 1,343 deaths from lead poisoning in the United States registration area, at an average age of 48.5 years. The average age of 584 painters who died from this cause during this period was 53.9 years, and for 51 lead workers, 51.8 years. The number of deaths clearly nonoccupational during this period was 195, leaving 1,148 in the strictly occupational group, or 85.5 percent of the total. During this period there were 47 deaths of women from lead poisoning, at an average age of 49.7 years. These deaths in most cases were due to contaminated water supplies and in a few other cases, in all probability, to painting at home. There were 36 deaths of farmers, at an average age of 55.5 years, most of which were probably caused by painting at home, but some also by contaminated water supplies. There were 56 deaths of boys under 18 years of age, 52 of which occurred in boys from 1 to 3 years of age; the average age for the group was 2.4 years. There were also 56 deaths of girls under 18, 46 of whom were from 1 to 3 years of age; the average for the group was 2.7 years. Most of the deaths of the little children were due to sucking paint on lead-painted toys, furniture, walls, or banisters.

The number and rate of deaths from lead poisoning in four leading industrial States, by 5-year periods, are shown in table 1.

TABLE 1.—Fatal cases of lead poisoning in specified States, by 5-year periods

Period	Aggregate population	Total deaths		Period	Aggregate population	Total deaths	
		Number	Rate per million			Number	Rate per million
New York State:				Pennsylvania:			
1921-25.....	54,153,217	71	1.3	1925-29.....	46,934,224	61	1.3
1926-30.....	58,766,394	72	1.2	1930-34.....	49,179,000	42	.9
1931-35.....	65,894,610	55	.8	1935-36.....	20,187,000	22	1.1
1936.....	13,345,226	15	1.1	Massachusetts:			
New Jersey:				1901-5.....	14,654,094	30	2.0
1915-20.....	18,007,290	48	2.7	1906-10.....	16,175,209	30	1.9
1921-25.....	17,107,645	36	2.1	1911-15.....	17,873,184	38	2.1
1926-30.....	19,321,224	31	1.6	1916-20.....	19,212,914	43	2.2
1931-35.....	20,968,485	28	1.3	1921-25.....	19,938,649	46	2.3
1936.....	4,328,000	7	1.6	1926-30.....	21,437,990	44	2.1
				1931-35.....	21,581,290	29	1.3
				1936.....	4,425,000	7	1.6

A tabulation of deaths from lead poisoning in 18 American cities in which the lead-using industries are more or less concentrated gives the following results: In the aggregate there were 179 deaths during the period 1929-36, of which 30 occurred in New York City, 29 in Baltimore, 28 in Philadelphia, 22 in Boston, 16 in Chicago, 15 in Cleveland, and 10 in Providence. By single years the number of lead poisoning deaths in these cities has been as follows: 1929, 18; 1930, 20; 1931, 24; 1932, 17; 1933, 17; 1934, 24; 1935, 26; 1936, 33.

The statistics for the United States Navy, for the period 1913-35, differentiating acute and chronic cases, show a remarkable decline for both types of lead poisoning—from 300 cases in 1913-17 to 56 cases in 1928-32 and 35 cases in 1933-35.

Workmen's Compensation Experience

Workmen's compensation statistics for lead poisoning are especially interesting, in that they afford a view into the financial aspects of the problem. Unfortunately, for only a few of the States compensating for occupational diseases are statistics available which are useful for the present purpose. The most important of these are for the State of New York, 1935-36, which paid \$141,379 for 99 cases in 1935 and \$78,239 for 69 cases in 1936.

The total number of cases of lead poisoning in Ohio during the 9 years, 1928-36, was 1,269. Of these, 77 terminated fatally, equivalent to a rate of 1.3 per million of population.

In the State of New Jersey, 1920-35, there were 962 cases of lead poisoning, a total of \$677,468 being paid as compensation during the 7-year period. In addition to compensation awarded, there were 242 cases in New Jersey in the period covered in which medical costs, to the amount of \$35,295, were incurred. The maximum amount paid in any of these years on account of medical costs, \$15,981, was reached in 1930. The proportion of compensation to medical costs indicates a decided decline in lead poisoning during recent years. The total number of days lost (weighted) during this period was 429,435, of

which 84,000 were for permanent total disability, 250,044 for permanent partial disability, and 23,109 for temporary disability.

According to information furnished by the Connecticut Bureau of Occupational Diseases, there were in that State 96 cases of lead poisoning during the 5-year period, 1931-6.

In Wisconsin the number of lead-poisoning cases for which compensation is paid is comparatively small. In 1934, the sum of \$8,380 was paid in compensation for 13 cases of temporary disability and 1 case of permanent partial disability resulting from this cause. In 1935, \$1,259 was paid in compensation for 13 cases of temporary disability. There were no compensated cases of death or permanent total disability in either year. The total number of days lost on account of lead poisoning during these 2 years was 2,287—1,837 in 1934 and only 450 in 1935.

International Statistics of Lead Poisoning

The data for Canada for the period 1931-35 are suggestive of a stationary condition in the frequency of lead poisoning. During 1936 there was a marked increase in the rate, or from an average of 0.8 per million to 1.6, based on 18 deaths for the year.

For England and Wales data are available since 1911, obtained from the reports of the Registrar General. These data, amplified by statistics on lead poisoning under the Factory Acts, derived from the annual reports of the chief inspector of factories, are shown in table 2.

TABLE 2.—Cases of lead poisoning in England and Wales, by 5-year periods

Period	Aggregate population	Fatalities among general population				Cases under Factory Acts	
		Occupational		Nonoccupational		Total	Fatalities
		Number.	Rate per million	Number	Rate per million		
1911-15.....	181,287,000	444	2.5	46	0.25	2,617	157
1916-20.....	175,537,000	251	1.4	14	.08	1,259	102
1921-25.....	192,084,000	241	1.3	13	.07	1,626	119
1926-30.....	197,252,000	231	1.2	11	.06	1,424	169
1931-35.....	201,506,000	148	.7	13	.06	884	105
1936.....	40,600,000	23	.6	4	.10	163	13

The above statistics do not include cases of lead poisoning in house painters and plumbers not employed under the acts. These have been included in the total number of cases given as 1,990 during the first 5-year period, 1,595 during the second, and 914 during the third. The number of deaths in this group was 201 in 1921-25, 206 in 1926-30, and 115 in 1931-35, while the respective fatality percentages were 10.1, 12.9, and 12.6.

The fatalities from lead poisoning, by 5-year periods, are shown for specified countries in table 3. Considerable variation in the mortality rate is evident here, but, as already indicated, the data are not entirely comparable because of the varying practice in the different countries with regard to the inclusion or exclusion of nonoccupational fatalities. All of the countries, however, exhibit a marked decline in the relative frequency of lead poisoning.

TABLE 3.—Deaths and death rate from lead poisoning in specified countries, by 5-year periods

Country and period	Aggregate population	Total deaths		Country and period	Aggregate population	Total deaths	
		Number	Rate per million			Number	Rate per million
Scotland:				Netherlands:			
1911-15.....	23, 738, 306	15	0.6	1921-25.....	35, 732, 943	16	0.2
1916-20.....	24, 101, 793	16	.7	1926-30.....	38, 427, 737	13	.1
1921-25.....	24, 462, 722	13	.5	1931-34.....	32, 762, 152	13	.1
1926-30.....	24, 411, 691	5	.2	Australia:			
1931-35.....	24, 524, 490	8	.3	1926-30.....	31, 408, 493	100	3.2
1936.....	4, 966, 300	1	.2	1931-35.....	33, 138, 325	82	2.5
Irish Free State:				1936.....	6, 777, 744	10	1.5
1923-25.....	9, 004, 000	19	1.0	Victoria.....	1, 847, 841		
1926-30.....	14, 767, 000	11	.7	New South			
1931-35.....	14, 908, 000	18	.5	Wales.....	2, 667, 839	2	.8
Switzerland:				Queensland.....	987, 689	7	7.2
1926-30.....	19, 948, 900	23	1.2	South Australia.....			
1931-35.....	20, 610, 900	19	.9	lia.....	587, 649	1	1.7
Italy:				Western Aus-			
1928-31.....	163, 345, 671	125	.8	tralia.....	450, 036	0	0
1932-35.....	169, 279, 873	123	.7				

¹ Included under No. 77 (mineral poisoning) of the international classification of the causes of death.



MEDICAL SERVICES

Agricultural Workers' Health and Medical Association, California ¹

The influx of migratory workers and their families into Western States, particularly California and Arizona, during recent years has created serious problems of relief for these States. From September 1933 to September 1935 the FERA gave relief to approximately 200,000 transient families, including about 700,000 persons. An account of the measures taken to meet the medical needs of these migrant families in California, in the Journal of the American Medical Association,² contained a summary of existing data on the extent of this migration and the resultant problems.

The Federal transient program in California was ended in 1935 and the relief work turned over to the State Relief Administration, which established a policy of denying aid to nonresident applicants who refused to consider returning to their home States. As a result of the inadequate aid given to the migrants, the Farm Security Administration adopted an emergency relief policy, in the winter of 1937-38, of making grants in cash and commodities to them.

Serious illness and malnutrition among the migrants were reported to the regional office of the FSA during that winter. A plan was drawn up for cooperation with the State Relief Administration for providing assistance to the migrants, but this plan was not successful and the regional office of the FSA then decided to provide medical care as well as food for these transients. It was decided that, because

¹ From the Monthly Labor Review, August 1940.

² Medical Care for Migratory Workers. By R. G. Leland, M. D. Journal of the American Medical Association, January 6, 1940 (pp. 45-55). For a discussion of migratory labor in California, see p. 575.

of the difficulties in assuring payment for medical care through the use of grants to individual families who might leave the locality before the grant check was delivered, some method of direct payment was necessary.

After consultation with the State and Federal public health services and the State medical association, the Agricultural Workers' Health and Medical Association was established. Although the association was incorporated in California, it was given legal authority to do business in other States, which allowed the extension of a medical-aid program to Arizona without necessitating the creation of another corporation.

Plan of Medical Organization

The association was incorporated as a nonprofit organization for the mutual benefit and rehabilitation of its members, and was empowered to engage in any activities involved in or related to the provision of medical and dental services, nursing or hospitalization, medical and surgical supplies and appliances, and such other services and supplies as might be necessary, and authorization was given to the association to borrow necessary money or supplies from the FSA or other Federal or State agencies. It was provided that membership should be restricted to low-income farm owners, farm tenants, sharecroppers, farm laborers, drought refugees, or persons who, when last employed, obtained a major portion of their livelihood from agricultural or related operations. A board of directors consisting of seven members was provided for, four of whom were appointed by the Farm Security Administration, one by the California Department of Public Health, and two by the State medical association.

The applicant for membership agreed in his application that he was obligated to repay the association for its expenditures for emergency medical and dental treatment, services, and supplies, for himself and his dependents. The member was referred by the medical-social workers to physicians and dentists who agreed to participate in the program. When referred to a physician, the order, signed by the medical-social worker, served as authorization for 1 visit by the physician, after which the doctor recommended the necessary treatment; and the form filled out by the doctor, when approved by the medical-social worker and signed by the client, served as an authorization for subsequent treatment not to exceed 10 visits or 2 weeks. The authorized services included drugs and special diet requirements prescribed by the physician, hospitalization, X-ray and laboratory services, and emergency dental extractions and treatment.

Before the program was put into operation all physicians, druggists, and private hospitals were notified of the scope and objectives of the program and were given the schedules of fees which had been adopted. The State was divided into districts, with regional headquarters in Fresno, a district office being established in that city in May 1938. After that time 10 districts were opened.

The mobility of the migrant population is such that the personnel of these offices in many instances literally had to follow the crops, but in some counties there was a continuous need for permanent offices the year round. In September 1938 the program was extended

to Arizona and a branch regional office was established at Tempe. Six district offices were opened, which were operated as diagnostic and treatment centers rather than referral offices and were staffed with nurses instead of medical-social workers.

As these centers proved satisfactory, it was decided to convert the referral-type offices in California into the diagnostic and treatment center type. As the FSA had established clinics in four of the labor camps, these clinics and all their equipment were turned over to the association.

Results of Operation of the Association

The total expenditure from May 4, 1938, through May 31, 1939, including commitments up to that time, was \$952,598, of which \$754,239 was expended in California and the remainder in Arizona. During that period approximately 900 physicians and 150 dentists served the association in the 2 States and 150 hospitals were used by the association members. Altogether, 880 druggists were on the panel of the association in the 2 States, and drugs were furnished at a price schedule approved by the retail druggists' association.

From May 1938 through July 1939, services were provided by the association to nearly 38,000 migrant workers and their families. Of this number 6,687 were hospitalized.

The service as planned under a medical adviser in the latter part of 1938 provided for care of acute and emergency cases only, but it soon became evident that many chronic diseases which were disabling were creating demands on the program, and it was expanded enough to care for some of these cases and some of the chronic diseases of childhood. As a result the association rendered a wide variety of services to migrant workers and their families.

Aside from their strictly medical needs, the migrant population presents a special problem in regard to public health and education. An effort was made by the director of public health in California to extend to migrants many of the facilities for health protection which are available to permanent residents of the State, while the State department of education provided educational facilities that move with the migrant groups as they follow the crops.



Medical Care for Low-Income Farm Families ¹

The Farm Security Administration, with the cooperation of State medical associations, has developed plans under which low-income farm families are being helped to obtain medical care at moderate cost. Such plans, in November 1938, covered more than 78,000 families in 20 States.² The provision of medical care is an outgrowth of the rehabilitation program covering more than 600,000 low-income and destitute farm families. As a lending agency, the Farm Security Administration found, quite apart from any humanitarian purposes,

¹ From the Monthly Labor Review, March 1939.

² Farm Security Administration. Medical-Care Plans for Low-Income Farm Families. Press release, November 1, 1938.

that a family in good health is a better credit risk than one in poor health and that good health is a necessary part of a family's economic rehabilitation.

The rehabilitation program is designed to assist relief families to become independent self-sustaining units and to this end loans are made, principally to enable the farmer to purchase farm equipment, livestock, fertilizer, seed, etc. The loans, carrying interest at 5 percent and secured by crop liens and mortgages on livestock, average about \$300. It has been the experience of the Administration that the loans are generally repaid. This credit is extended only to farmers who cannot obtain assistance elsewhere, and as they are what would be ordinarily rated as poor risks the Government's security is dependent upon their success, which in turn depends, in part, upon their being in good physical condition.

Provisions of Plans

The plans developed by the Farm Security Administration to provide medical care for its borrowers are put into effect only with the cooperation of the local medical societies. As a first step, an agreement is made with the State medical association, outlining the general principles acceptable to the association, after which the local medical societies in the areas most needing this service are consulted.

The plans, as agreed upon with the medical societies, provide that in general the total amount a borrower is to spend in a given period, usually 1 year, will be within the amount he is considered able to pay (as determined by the farm plan) and that the family shall have free choice of a physician. They also provide that the funds for the payment of medical costs and fees shall be paid to a trustee at the beginning of the period and may then be pooled into a common fund or credited to the individual families, according to the agreement reached by the local physicians and the families concerned. The amount paid by persons covered by the plans varies in the different localities but is usually between \$20 and \$30 per family per year.

The plan which is in most general use provides that a part of the money shall be set aside for surgical cases, hospitalization, and emergency needs and that the remainder shall be divided into equal monthly allotments for the payment of medical fees for the period covered. Monthly statements are submitted by physicians for their services. If the allotment for the month is sufficient, all bills are paid in full and any balance is carried forward to the next month or to the end of the period. If the funds are not sufficient to pay the physicians' bills for the month, however, the allotment is prorated among the physicians, and any funds remaining from previous periods may either be used to complete payment of the bills for months in which funds were not adequate or be returned to the families, as the terms of the agreement may provide.

If the plan provides that a separate fund is to be kept for each family, the physician agrees to provide medical care for the period for the amount designated. If the actual cost of service rendered is less than the sum set aside, the balance is refunded to the family, but if it is greater the physician continues attendance during the period without additional compensation. This type of plan does not

provide for hospitalization but sometimes it is varied to provide for pooling part of the payments from all families to meet hospitalization and emergencies.

The experience with the two types of plans has shown that for low-income families the pooled-fund plan is preferable, as it insures adequate care in cases of protracted and serious illness and protects the doctor from having to care for such cases without compensation.

Both plans have proved effective in the preventive aspects of medicine since payment for medical care is based on the expected income of the family and the physicians use a uniform fee schedule as the basis for their charges. Since the incomes of these families ranged from \$20 to \$300 a year it was realized that they could not pay heavy fees and the families generally realized that even though no medical attention might be needed in the year the security afforded was worth the investment. In general there has been no abuse of the privilege in requesting unnecessary medical attention. Physicians generally have been pleased with the program, since families who formerly were unable to pay anything are enabled to pay at least a part of the customary fees.

Extent of Prepayment Plans

County plans for medical care were in operation in 120 counties in the States of Alabama, Arkansas, Georgia, Iowa, Indiana, Missouri, Mississippi, Ohio, Oklahoma, Texas, and Tennessee. Agreements were reached with the State medical associations in Colorado, Louisiana, New Mexico, North Carolina, North and South Dakota, Utah, Virginia and Wisconsin.

Medical prepayment plans have also been organized on a community basis. In several communities the homesteaders organized voluntary beneficial associations which served as the agencies for the conclusion of special agreements with physicians and hospitals. In still other cases the Farm Security Administration advanced the money for medical care and the loans were repaid when the crops were sold.

With the exception of public health nurses placed in a number of the projects, the Farm Security Administration avoided subsidizing medical care as far as possible. The report stated that as yet "there has not been sufficient experience with these various plans to perfect them. Adjustments and changes will be necessary. It is not felt that these programs are a final answer to all the problems of medical care in rural areas, but it is felt that they are worth-while examples of methods which may be used in approaching these problems."



Cost of Medical Care Among Farm-Families ¹

The annual expenditure of farm families in the United States for medical services amounts to approximately \$265,000,000 and other medical costs, including medicines, health and accident insurance, etc., bring the total cost to about \$350,000,000, according to a report

¹ From the Monthly Labor Review, February 1939.

by the United States Bureau of Agricultural Economics.^a The average cost per year per family for medical services alone is \$39, while the total medical costs average \$51 per family, or about 8 percent of the family budget. Although this average expenditure is not large, it is pointed out that the cost for any one family may vary from nothing in some years to several hundred dollars in other years.

Data were collected by the Bureau in 1936 on rates charged for selected medical services to farmers in the periods 1910-14, 1924-29, 1932, and 1935-36. Between 1910-14 and 1924-29 these rates were found to have increased 21 percent. There was some decline in rates during the depression which began in 1930, and in 1935-36 the average of rates for the country as a whole was only 16 percent above the 1910-14 level. The increase in rates for medical services during the past 25 years has been accompanied by improvement in the quantity and quality of medical services, while a marked improvement in transportation facilities and an increase in the number of hospitals have made medical services more easily and quickly available for farm families. Since with improved roads more patients now visit the doctor, much of the time he formerly spent in visiting farm homes can be devoted to rendering additional services, and it is said to be probable that except for this increased efficiency in the use of doctors' time there would have been a greater increase in the rates for medical services in rural areas.

The increase in fees from the period 1910-14 to that of 1935-36 varied in the different services. Physicians' fees increased 13 percent; dentists' fees, 22 percent; oculists' and optometrists' fees, 14 percent; hospital charges, 17 percent; and nurses' fees, 23 percent. Rates in the New England and Middle Atlantic States have been maintained at relatively high levels during the past decade or more as compared with 1910-14, which is due in part to the greater stability of farmers' incomes in these regions. In the West North Central region, however, as a result of the severe droughts of 1934 and 1936 which reduced farm income sharply, rates in 1935-36 were only 9 percent above the pre-war level. In general, the rates for medical service and the expenditures for this service by farmers were highest in the Pacific and Mountain States and lowest in the Southern States.



Minimum Standard for Medical Service in Industry ¹

The need for better organization and service for the care of the sick and injured in industry has been recognized by the American College of Surgeons which in 1926 established a board for the purpose of studying and improving the situation. This organization first made surveys of industrial medical services in different sections of the country which have shown that compliance with the compensation law does not necessarily signify an efficient medical service and that financial awards cannot compensate for a disability that is chargeable to inadequate medical service.

^a U. S. Department of Agriculture. Bureau of Agricultural Economics. *The Agricultural Situation, August 1938* (pp. 13-14): *The Cost of Country Medical Service.*

¹ From the *Monthly Labor Review*, September 1935.

As a result of these studies, the college formulated a minimum standard for industrial medicine and traumatic surgery which specifies that the industrial establishment shall have an organized medical department or service with competent medical staff, including consultants, and shall also have adequate emergency, dispensary, and hospital facilities, and personnel. Complete and accurate records shall be kept which shall cover all information pertinent to the case or required by statute for workmen's compensation claims or other purposes. The medical department or service shall have general supervision over the sanitation of the plant and the health of the employees.

A preliminary study was made by the board during 1926 to 1931 and personal surveys from 1931 to 1933, which were supplemented by questionnaires.² The surveys covered 925 industrial establishments of various types, employing nearly 2,500,000 workers, distributed throughout the country. In general, it was shown that many of the larger industrial organizations have provided excellent medical service but in the smaller establishments much can be done to improve the service.

The development of industrial medical service has naturally been greatly influenced by the workmen's compensation laws. Many industrial organizations, it is said, have found that an efficient and unbiased medical service has promoted good will and mutual protective interest between the employer and the employee.

The following basic objectives, it is considered, should be followed in plans for industrial medical service: (1) To ascertain, by examination, the physical and mental fitness of employees for work; (2) to maintain and improve the health and efficiency of those already employed; (3) to educate the worker in accident prevention and personal hygiene; (4) to reduce lost time and absenteeism from illness or injury.

Extent and Type of Medical Service

The survey of 925 companies showed that approximately 2 percent of the plants with fewer than 250 workers had full-time physicians, as contrasted with 87 percent having a physician on call. In plants with over 1,000 employees, 36 percent had full-time physicians, and 55 percent had part-time physicians, while 20 percent had physicians on call. The latter group may include surgeons, oculists, and other specialists called in as consultants.

Comparatively few of the companies provided dental service. Graduate female nurses are generally employed in the dispensaries of the larger industries and graduate male nurses are used to a limited extent in plants in which the employees are predominantly male, but in the smaller establishments first-aid service is usually given by employees who have received first-aid training. Special technicians are employed in some of the larger establishments which maintain X-ray and clinical laboratories and do a large amount of diagnostic work.

Although preemployment physical examinations were routine procedure in 63 percent of the companies, 2 percent examined special groups only. Routine periodic physical examinations were given by

² American College of Surgeons. Medical Service in Industry and Workmen's Compensation Laws, by M. N. Newquist.

17 percent of the companies and to special groups only in 11 percent of the plants studied. It was said that the trend in regard to thoroughness of physical examinations has been from a general inspection, through superficial examinations toward a more complete examination with X-ray and other laboratory examinations sometimes included. The importance of an X-ray examination of the chest of all workers who have been or are about to be exposed to silica dust is stressed.

The physical examinations are naturally the first step in preventive medicine, and should lead to the placement of the employee in the position for which he is best fitted and where the maladjustments of working conditions will not be injurious to his health. Occupational-disease hazards should be eliminated.

Cost of Medical and Surgical Service

High costs of medical and surgical service in an industry are not always indicative of the hazardous or nonhazardous nature of the industry. Such nonhazardous groups as banks, insurance companies, department stores, etc., may show a high per capita medical cost as a result of an extensive program of preventive health measures.

A study of the relation of medical to compensation costs made in 1932 by the American College of Surgeons covered 334 industrial establishments with 733,261 employees. Of this number 68 companies had fewer than 500 employees, 86 had 500 to 999, and 180 had 1,000 employees or over. The per capita medical costs of the companies having fewer than 500 workers were less than 1 percent lower than those of the group of largest plants, while on the other hand the compensation costs were 39 percent higher. The group having 500 to 999 employees had the highest per capita medical cost, due to the fact that most of the companies maintained dispensaries and a medical service and that the fixed cost must be distributed over a smaller number of employees than in the large plants. For all the plants the average annual medical cost per employee was \$6.30, with a range from \$2.72 in the leather industry to \$17.69 in the mining industry. The total medical and compensation costs per \$100 of pay roll ranged from 39 cents in department stores to \$4.50 in the mining industry. Costs were higher in those organizations in which the employees contribute through pay-roll deductions for extended medical service; in some cases this service covered the families of the employees.



Effect of the Frequency of Meals Upon Efficiency ¹

The effect upon physical efficiency and industrial productivity of changes in the distribution of the daily diet from the conventional three meals to more frequent periods was the subject of a study ² by Dr. Howard W. Haggard and Dr. Leon A. Greenberg of the Department of Applied Physiology in Yale University.

¹ From the Monthly Labor Review, November 1935.

² Haggard, Howard W., M. D., and Greenberg, Leon A., Ph. D. Diet and Physical Efficiency. New Haven, Yale University Press, 1935.

Various studies have been concerned with the general study of nutrition—that is, the quantity and quality of food—but little, if any, attention has been given to the effect upon physical efficiency of distributing the food consumed among more meals per day. Although the American custom is to eat three meals a day—and this practice is accepted without question, even though the nutritional needs of the aged and the young, the active and the inactive, are widely different—in different countries widely different practices prevail which also appear natural and comfortable to those accustomed to them. The authors state that it is probable that different practices are best for different conditions—that is, for children, for working adults, and for the sedentary aged—and it is the problem of science, therefore, to determine the best meal-time interval for different conditions. The practice of eating the day's supply of food in three installments does not seem to be based on any physiological reason, but rather to have grown out of the factory movement in which a long and intensive working day provided for one interval only during the day for a meal. It has been generally assumed that the lowered output in industrial operations in the latter part of the morning and of the afternoon is the result of fatigue, but the author's researches tend to show that the rise and fall of muscular efficiency and industrial output is correlated with the frequency of meals.

The terms "work" and "rest" are usually understood as quite opposite conditions, although in reality they are not opposite but the same condition, varying only in degrees. As long as the body is alive it is never at rest, and even in the most extreme relaxation the muscles are active and the vital functions of all the organs are carried on continuously. Even during so-called "rest" the muscles are performing static effort, the energy expended by the muscles being dissipated solely as heat which is used to maintain the body temperature during rest. In the exertion of conscious effort, however, this energy is spent in part as heat and in part on the external work. The energy expended in these forms as well as in static effort can be measured, the most convenient measurement being the rate at which oxygen is consumed in the chemical reactions occurring during the liberation of energy. The rate of energy expenditure during rest in bed and freedom from disturbing influences, including the digestion of food, is approximately 40 calories per square meter of body surface per hour. Thus, a man of average size under these conditions expends approximately 80 calories per hour and while sitting at rest approximately 100 calories. When performing an occupation such as typewriting the energy expenditure is about 140 calories per hour, in walking at a moderate pace about 200 calories, and in occupations such as carpentry or painting about 250 calories, so that even while working the resting rate—that is, the energy required for maintaining the functions of the body—still accounts for an important part of the total energy expended. In more strenuous occupations, such as wood sawing or digging, the energy expenditure may rise to 500 to 660 calories, while in the most violent exertion that can be sustained even for a few minutes the rate may rise to 40 times that expended during rest.

In calculating net efficiency for this study the energy expended during rest was subtracted from the total energy expenditure. Al-

though this involves a slight error due to the fact that the energy expended in basic bodily activity increases during exercise, it was considered a more satisfactory index of muscular activity than the gross activity, which is found by dividing the heat equivalent of the external work by the total energy expended in performing the task. The gross efficiencies, because the value of the resting state is retained, tend to increase with an increasing burden of work while the net efficiency tends to decrease.

An experiment carried out with a young man aged 25 eating 3 meals a day showed that his muscular efficiency was lowest before breakfast and highest 1 hour after breakfast. His efficiency rose from 19.5 percent before breakfast to 27.0 percent in 1½ hours. Thereafter there was a steady decline each hour to 21.2 percent at 12 o'clock. After the noonday meal his efficiency rose to 26.0 percent at 1 o'clock and to 26.3 percent at 2 o'clock, after which there was a progressive decline to 20.8 percent at 6 o'clock, which was close to the before-breakfast level. The energy expenditure, which was 1.43 calories per minute before breakfast, rose to 1.60 calories 1 hour after breakfast, or an increase of 10.7 percent.

Factory Study Showing Effect of Frequency of Meals

For the purpose of measuring the energy expended in work, laboratory experiments were carried out with both trained and untrained subjects and a study was made of variation in production among factory employees in a large industrial plant manufacturing rubber footwear.

In the latter experiment the operation selected for study was the sewing together of the canvas parts of the tops of tennis shoes. In this operation, in which there were practically no mechanical delays, the operators were guaranteed a minimum hourly wage regardless of production plus a production bonus which was based on production studies made on experienced and highly skilled operators. This operation was selected as representing, as nearly as possible, a true measure of the actual effort of the individual operator. Nine of the total number of workers selected for study ordinarily ate 2 meals a day, 16 ate 3 meals a day, and 7 ate 5 meals. Those in the first group had a mean hourly production of 172 shoes, in the second group a production of 183, and in the third group a production of 191. As the skill of the operators in each group affected the production and as the numbers involved were not large enough to average out the variation in skill, 40 operators were divided into 2 equal groups, 1 serving as the control group and the other as the experimental group. The groups were studied over a period of 10 weeks. The control group ate the customary 3 meals a day and their average hourly output was determined both daily and in 2-week periods. The other group ate 3 meals a day for the first 2 weeks, 5 meals a day for the second 2 weeks, and after that 3 meals, 5 meals, and 3 meals for each 2-week period. The extra meals, consisting of a glass of milk and a 6-ounce piece of angel-food cake, were given the operators at the beginning of the third hour in the morning and in the afternoon periods.

The average mean hourly output of the 20 operators used as the control group showed only slight variation in the successive 2-week

periods. The lowest mean output in any one day in the 10-week period was 174, and the highest, 189, representing deviations from the average of 5.4 percent and 2.2 percent, respectively. In the experimental group the average mean hourly production in the 3 periods in which they ate 3 meals per day was 175, 176, and 176. The lowest mean output for any single day within these periods was 169 and the highest 179, or a deviation from the average of 4.1 percent and 1.8 percent, respectively. The mean hourly production by these same operators during the two 2-week periods when eating 5 meals a day was 192 and 194, with a minimum daily output of 188 and a maximum of 196. Thus, the lowest output during the time the 5 meals were given was considerably in excess of the highest when only 3 meals were eaten. The average increase of production when 5 instead of 3 meals were eaten was 9.7 percent. Although the output of this group when 3 meals were eaten indicated that the group was considerably less skilled than the control group, as their rate of production was 4.4 percent less, nevertheless, when eating 5 meals a day their production rate rose 5.9 percent above that of the control group. From this showing the authors conclude "that the pattern of productivity, as influenced by the number of meals taken, bears directly upon the rate of production." While the daily productivity was considered unquestionably to be increased by the extra meals and the operators voluntarily stated that they felt less tired on those days than when they ate their customary 3 meals, there was no evidence that this possible freedom from fatigue carried over into the following week.

Conclusions

It is large meals and not frequent meals which put a burden on digestion. The lassitude and disinclination for thought or work following large meals are the effects of the diversion of the blood supply and vital energy to the task of digestion. These effects do not follow small meals taken at frequent intervals. To the objection that changing the schedule of meals from three to five or six a day will result in the person becoming fat from eating too much food, it is replied that the number of meals does not necessarily increase the total amount of food eaten and that the size of the meals is unconsciously curtailed as the number is increased. This fact was shown in the factory study, as the operatives who brought their lunches to the factory commented on the fact that they no longer ate all they brought with them. The advantages with one exception, it is said, are on the side of frequent feeding. The disadvantage lies in a possibly unwise choice of food for the smaller meals, with the result that the diet becomes unbalanced. When three meals only are taken there is ordinarily a diversity of foods eaten at the "regular" meal-times, and it is necessary in adding the supplementary meals to select foods with a view to supporting the balance of the general diet as regards the necessary vitamins, minerals, and proteins. For this reason warning is given against the excessive use of candy, pastry, and soft drinks.

As a result of the investigation, the authors conclude that "the practice common in this country of eating the day's supply of food in three installments does not permit the greatest efficiency, vigor, and

freedom from distraction of which the individual is capable. Five meals a day yield the maximum of efficiency. Study of a large group of subjects has shown that on a regimen of 2 meals a day muscular efficiency is above the before-breakfast level for only a little more than 2 hours out of the entire working day. On one of 3 meals, it is above the before-breakfast level for about 4 hours; and on one of 5 meals a day, for 7 hours."



Income and Income Changes in Relation to Sickness ¹

The effect of reduced incomes upon sickness among white families in 10 localities was the subject of a survey by the United States Public Health Service and the Division of Research of the Milbank Memorial Fund.² The first general report of this survey³ dealt with the relation between income changes during the depression and the morbidity experience of the groups studied. It was stated in the report that because of the continued low death rate, which was the lowest on record for all causes in the first half of 1933, the conclusion has been drawn by many that the physical well-being of the American people not only did not suffer but even may have been benefited during the depression. It was pointed out, however, that when such a conclusion is based on general mortality figures alone it is open to question, since the families of the unemployed are in a minority even in the worst depression, and also because the important causes of death are not the most frequent causes of illness.

The survey was made by house-to-house canvasses in 8 large cities—Baltimore, Birmingham, Brooklyn, Cleveland, Detroit, New York, Pittsburgh, and Syracuse—and in a group of coal-mining communities in the vicinity of Morgantown, W. Va., and a group of cotton-mill villages near Greenville, S. C.; it covered about 1,200 families in each locality. Data from 11,511 families, covering 49,136 individuals, were sufficiently complete to be used in showing the association between illness and unemployment in 1932, but economic data were complete, and other data reasonably so, for the 4 years from 1929 to 1932 for only 9,127 families covering 40,184 individuals.

The population studied was largely of the wage-earning class and only the poorer sections of the cities were canvassed, as in the well-to-do sections the standard of living was too high to affect health adversely, even though great reductions in income had taken place. Slum areas were excluded as they contain too many families which were never self-supporting, even at the height of prosperity. Colored sections were also excluded in order to exclude the question of racial differences in employment, income, and sickness. The families in which the breadwinners still had their jobs served as a control group for measuring the sickness rates of those who had suffered economic reverses. The sickness records covered a 3-month period early in 1933 and the economic history the period from 1929 to 1932.

¹ From the Monthly Labor Review, September 1935.

² See Monthly Labor Review, January 1934 (p. 82).

³ United States Public Health Service. Public Health Reports, May 3, 1935: Relation of Sickness to Income and Income Change in 10 Surveyed Communities, by G. St. J. Perrott and Selwyn D. Collins.

The median income of the group in 1929 was \$1,650, while for non-farm families throughout the United States it was \$1,900. By 1932 the median income of the group had dropped to \$870, a reduction of 47 percent. Incomes of less than \$1,200 per year were received by 26 percent of the families in 1929 and in 1932 by 66 percent, while 35 percent of the families had incomes in excess of \$2,000 in 1929 as compared with 10 percent in 1932.

The study covered illness from all diseases and accidents, and the illnesses were classified according to whether their time of onset was within the survey period of 3 months or prior to the survey, the latter group containing the more or less chronic cases. These groups were further subdivided into disabling and nondisabling cases, all bed cases being included in the former class. It was found that the group with no employed workers had an incidence of disabling cases which had their onset within the survey period 33 percent higher than the rate for the group having full-time workers. The rate for the combined disabling illnesses having onset within and prior to the study was 48 percent higher for the unemployed group than for the families having full-time workers. No logical relationship was shown between non-disabling cases and employment status.

The data showed that, with the exception of Greenville and Morgantown, the disabling illness rate of families having no employed workers was consistently higher in each city than that of families having part-time or full-time workers. Although the two rural industrial communities had a relatively high average illness rate, that rate did not show the consistent association between economic status and illness which was found in the eight large cities, and as there was no obvious explanation of this fact the report deals largely with the larger cities. It was stated that since most of the families having no employed workers in 1932 had one or more employed workers in 1929, the data give "striking evidence of the association between a relatively high rate of disabling illness and loss of employment during the depression, with accompanying loss of income and reduced standard of living."

Illness in Relation to Income

The families grouped according to income were divided into comfortable, moderate, and poor, the income ranges for this classification varying among the different localities as a result of the differences in the averages and distributions of the incomes and the necessity for having groups of sufficient size for statistical significance as well as the differences in living costs. The "comfortable" per capita income was fixed at \$300 and over in Greenville and Morgantown; \$425 and over in Baltimore, Birmingham, Cleveland, Detroit, Pittsburgh, and Syracuse; and \$500 and over in Brooklyn and New York City; while the "poor" income was under \$250 per capita in Brooklyn and New York City, and under \$150 in the other localities. The "moderate" incomes ranged between these limits. Based on the income in 1932 it was found that the rate of illness among families classified as poor was 23 percent higher in the grouping by per capita income and 30 percent higher in the grouping by total family income than among the families classified as comfortable. An even greater excess among

families with the lowest income was shown for the largely chronic illnesses with onset prior to the survey period.

The comparison of the sickness data with changed economic status brought out the fact that the highest illness rate was found in the group hardest hit by the depression—the group which was comfortable in 1929 and poor in 1932. The rate for disabling illnesses of this group which had their onset within or prior to the survey period was 174 cases per 1,000 persons or 45 percent higher than the rate (120 per 1,000) for those who were comfortable in both 1929 and 1932. The group that had dropped from comfortable to moderate had a 10-percent higher disabling-illness rate than the comfortable group that had experienced no drop in income. The illness rate of the group that had dropped from moderate to poor was 17 percent higher than the rate for those who were in moderate circumstances throughout the 4 years, while in the group that had dropped from comfortable to poor the rate was 9 percent higher than those who were poor throughout the period—a finding, the report states, which suggests that illness is associated with a sudden adverse change in the standard of living.

In considering the findings of the study, it was stated that it seemed reasonable to suppose that the higher illness rate among the depression poor than among families which had remained in the comfortable class throughout the 4 years must have been due, at least in part, to the lowered standard of living, which included crowded housing conditions and lack of adequate food and clothing and medical care. However, there are some modifying factors, such as the possibility that the depression may have been a sifting process, separating the fit from the unfit, since, on the average, the men who kept their jobs were the more vigorous, capable, and intelligent ones. While the study presents evidence, therefore, that there was a process of selection, it is said—

The facts that the excess in illness rates appears among children as well as adults and that the highest illness rates are exhibited by families that had dropped from the highest level in 1929 appear to point to a definite causal relation between lowered standard of living and high illness rate.



HEALTH PROGRAMS AND SURVEYS

National Health Survey, 1935-36 ¹

Six million persons are unable to work, attend school, or pursue other usual activities each day during the winter months, on account of illness, injury, or gross physical impairment resulting from disease or accident, according to an estimate by the United States Public Health Service based on a national health survey.² A house-to-house

¹ From the Monthly Labor Review, March 1938.

² United States Public Health Service, National Institute of Health. The National Health Survey, 1935-36. Preliminary Reports: Significance, scope, and method of a Nation-wide family canvass of sickness in relation to its social and economic setting; Families distributed by income during the survey year; An estimate of the amount of disabling illness in the country as a whole; Illness and medical care in relation to economic status. Washington, 1938.

canvass was made during the fall and winter of 1935-36 by the Public Health Service with the aid of grants from the Works Progress Administration. The study covered 740,000 families in urban communities in 19 States and 36,000 families in selected rural areas in 3 States, comprising a total of 2,800,000 persons.

There is still a great deal of preventable illness in spite of the advances in disease control in the past half century, and current data on the effects of environmental and social economic factors are much needed. Moreover, the increasing proportion of older persons in the population makes the problem of chronic diseases of growing importance. There is also need for information as to the cause and frequency of accidents and the extent of the resulting disability. A plan for the provision of modern medical services for all sections of the population depends upon knowledge of the extent of the need for each kind of service.

The major objectives of the Health Survey were to determine: (1) The incidence and nature of serious disabling illnesses (those lasting 7 consecutive days or longer) during a 12-month period among a nationally representative population; (2) the duration of such illnesses; (3) medical care received; (4) the number and type of serious accidents and impairments resulting from accidents; (5) the prevalence and type of chronic conditions, orthopedic defects, blindness and deafness; (6) the prevalence and kind of disabling illness on the day of the visit; (7) the utilization of certain medical and public-health facilities such as health clinics, tuberculosis sanatoria, and public-health nursing services; (8) the relation between disease and social, economic, and other conditions, such as income, employment status, occupation, housing conditions, education, age, sex, and color; (9) mortality in relation to income and other social and economic circumstances.

In order to make the survey nationally representative, 84 cities distributed in 19 States were chosen, which were regarded as typical of the four main geographic regions—East, 4 States; Central, 5 States; South, 6 States; and West, 4 States. The cities chosen represented four different size groups: 500,000 population or more; 100,000 to 500,000; 25,000 to 100,000; and less than 25,000; but in order to avoid overrepresentation of large city populations, 31 cities of more than 100,000 population and one smaller city (Montgomery, Ala.) were only sampled, while 53 smaller cities were completely canvassed. The samples taken in the larger cities ranged from 5,000 to 45,000 schedules, on the basis of the number considered adequate to represent the individual community as well as to complete the sample on the basis of regional and size distribution. Of the 23 rural sections studied, 16 were in Georgia, 4 in Michigan, and 3 in Missouri. These localities were, of course, not entirely representative of the rural population as a whole. The procedure followed in the sampling in the larger cities was designed to secure, as far as possible, adequate representation of the different population groups.

The enumeration was carried out between the early part of October 1935 and March 30, 1936, and each family reported illnesses experienced during the 12 months preceding the day of interview, family

income during the same period, and any relief assistance received during the year. The sickness and income information in the survey as a whole, therefore, covered a period of 18 months, in which, while the worst depths of the depression had passed, widespread unemployment and want still prevailed. Families were classified as being of the relief group if any assistance had been received from an official agency within the 12 months. The net family income for others than the relief group was estimated roughly for the preceding 12 months within the income classes \$5,000 or more, \$3,000 to \$5,000, \$2,000 to \$3,000, \$1,000 to \$2,000, and \$1,000 and under. Persons included in the term "workers" were regularly employed persons, unemployed persons engaged on work relief, and totally unemployed persons seeking work. Included in the latter category were persons who were looking for their first job.

For the classification of the sickness and impairment data, an illness was considered as a continuous period of sickness, whether due to one or more causes, and a disabling illness one which kept a person from his work, school, or usual activities. No terminated disabling illnesses of less than 7 days' duration were included in the survey, with the exception of confinements, hospital cases, and fatal cases, which were included regardless of their duration. A record was taken, however, of all disabling cases on the day of the enumeration visit. Disabling illnesses were classified by cause according to the nature of the specific diagnosis, and the duration of symptoms of the disease. Illnesses of less than 3 months' duration were classified as "acute" and those with symptoms of 3 months or more as "chronic." Permanent handicaps resulting from disease, accident, or congenital defect were classified as impairments. Both disabling and nondisabling impairments were included. Physicians' care covered attention received from a doctor of medicine or similar practitioner in addition to that given by physicians in hospitals.

The distribution of the persons covered in the study was on the basis of the household, the family income, and the relief status of the family group. One family made up each household, consisting of a group of persons or a single person, with one person designated as the head. Family income included salaries, wages, business profits, income from boarders and lodgers, and income from investments. Families were considered to have received relief if, at any time during the year, one or more of the members had been on work relief other than the PWA or CCC, or had received direct relief, mothers' pension, pension for the blind, or any similar grant from public funds administered by a Federal, State, or local government.

Extent of Disabling Illness

The estimate of 6,000,000 persons incapacitated in a single day was made on the basis of the sickness records of 2,300,000 persons surveyed in 81 of the cities canvassed, in which 4.5 percent of the number were sick on the day of the canvass. The proportion of those sick on an average winter day was found to vary widely with age. The highest proportion of sickness occurred among persons 65 years of age and over, as about 1 in every 8 was disabled on the day of the survey.

Among young persons aged 15 to 24 the proportion was only 1 in 40. In childhood and in the working ages between 25 and 65 years the ratio was about 1 in 23. The variations in the incidence of sickness according to age are based on an analysis of the cases occurring in a group of 280,073 persons in 8 large cities as applied to the total surveyed group in 81 cities.

Approximately a million and a half of the 6 million persons disabled on the day of the canvass were suffering from acute respiratory diseases—influenza, colds, tonsillitis, etc.—this high proportion being due to the fact that the survey was made in the winter months when these diseases are most prevalent. About 2½ million persons were disabled by chronic diseases (rheumatism, diseases of the heart and circulatory system, arteriosclerosis, nephritis, cancer, and nonmalignant tumors, diabetes, asthma, tuberculosis, ulcer of the stomach, diseases of the gall bladder, nervous diseases), and permanent impairments resulting from earlier disease or accident. Accidents were the cause of disability in about 500,000 persons, and the acute infectious diseases were responsible for the illness of about 250,000 persons, mostly children. Acute diseases of the stomach and liver, and appendicitis also caused about 250,000 cases of disability. The remaining 1 million cases were caused by various other acute diseases.

Among the persons surveyed, illnesses lasting more than 7 days averaged about 172 per 1,000 persons canvassed. If this average is applied to the entire population of the United States, there were about 22 million illnesses disabling for a week or longer, or about 16 such illnesses for each death occurring in 1935, the approximate survey year. This figure is regarded as a minimum since it does not include the illnesses of short duration.

An average of 57 days of disability for cases of illness lasting 1 week or longer observed among the group of 280,073 persons in 8 large cities, applied to the total illness rate of 22 million cases, shows that nearly 1¼ billion days are lost annually from home and industrial work or from school in the country as a whole.

There is great variation in the severity of diseases, and in contrast to the average of 57 days of disability per case for all types of cases, an average of 138 days per case was shown for disabling illness due to chronic disease. Chronic diseases occurred with about the same frequency as acute respiratory diseases, but the duration of the average chronic case was found to be over seven times as long as the average case of respiratory disease.

Illness and Medical Care in Relation to Economic Status

Classification of the urban population of approximately 2¼ million persons by income status shows that persons in families with annual incomes under \$1,000 formed about 40 percent of the group canvassed; 65 percent were in families with annual incomes under \$1,500; and 80 percent were in families with incomes under \$2,000. Almost one-half of the lowest income group had received relief during 1935. Thus, 2 of every 5 persons surveyed were in the lowest income group, the same proportion were in the group with incomes of \$1,000 to \$2,000, and only 1 in 5 were in families with an income in excess of \$2,000.

For those in the lowest income group, the report stated, it was evident that inadequate diet, poor housing, occupational hazards, and the instability of the labor market create serious health problems. Earlier surveys have shown that the frequency of illness is highest among the poor. Disabling illness lasting 1 week or longer in a 12-month period occurred among families on relief at a rate 57 percent higher than in families with annual incomes of \$3,000 and over. For acute and chronic illnesses the rates were 47 percent and 87 percent, respectively. During the year, two persons on relief were disabled for 1 week or longer by chronic illness for every disabled person in the middle and highest income groups. Persons in families just above the relief level—that is, with incomes under \$1,000—experienced an illness rate lower than the relief population but 17 percent higher than the rate for the highest income class.

The frequency of illness—that is, the number of cases occurring during the year—and the severity of illness, or the duration of the average case, are the two factors determining the annual volume of illness. It was shown in the study that not only do relief and low-income families experience more frequent illness during a year than the higher income groups, but their illnesses are, on the average, of longer duration. The average case of disabling chronic illness among persons in relief families was 63 percent longer in duration than the average case in the group of incomes of \$3,000 and over. Combined with the higher frequency of chronic illness in the relief group, the volume of disability in this group was three times as great as in the upper-income families—11.9 days as compared with 3.9 days per person.

In addition to the larger number of cases of disability in the families of the lower income and relief groups, these groups also received less medical care, 83 percent of the cases in the highest income class being attended by a physician as compared with 70 percent among the relief families. Of the attended cases fewer physician's calls per case were also received by the low-income or relief families, although a higher proportion of these families received care from a visiting nurse. In contrast to the lower rates for care by physicians and private-duty nurses, the surveyed relief population received hospitalization at an annual rate of 63 cases per 1,000 persons, as compared with a rate of 45 per 1,000 persons in the highest-income group. When the hospital cases were related to the number of disabling illnesses, however, the relief group was found to receive hospital care in a somewhat lower proportion. The lowest hospitalization rate—24 percent of all disabling illnesses—was found in the group of nonrelief families with incomes under \$1,000.

According to a preliminary analysis of the data on hospital care, it appeared that the relatively large volume of hospital care received by relief and low-income families prevailed only in the cities of 100,000 population and over, and that the provision of this care decreased with the decrease in the size of the cities, reflecting the greater inadequacy of free hospital facilities in the smaller communities.

Health Work of International Ladies' Garment Workers' Union ¹

The growing concern of the Federal and State Governments with health legislation designed to improve medical care has stimulated interest in existing schemes providing medical care at low cost. This article describes the functioning of a trade-union plan covering a large group of industrial workers, which provides medical care for its members who would themselves be unable to pay for such services. The plan has developed slowly and successfully over a period of 25 years and in connection with it, particularly in the last few years, insurance schemes have continued to progress and extend their activities.

The International Ladies' Garment Workers' Union is one of the largest unions in the United States, with about 235,000 organized workers in 141 locals. Twenty-six of these locals, with a membership of about 140,000, are concentrated in New York City and the vicinity.

The economic status of these workers is definitely low in comparison with national average and median income levels. The average annual income of the cloakmakers is \$960 and dressmakers \$880, with \$1,500 an unusually high yearly income in the trade as a whole. Many workers earn less than \$500 a year. In the lowest income group are many women who live with their families, but the average male garment worker is the sole provider of several dependents.

Union Health Center

The establishment of Union Health Center in 1913 was an outgrowth of the general strike of the cloak and suit makers in New York City in 1910 in which the unsanitary conditions prevailing in the garment trades at that time was a major issue. The settlement of the strike resulted in the "protocol of peace" formulated by Mr. Justice Brandeis and other well-known citizens and was followed by the formation of the Joint Board of Sanitary Control, representing manufacturers and union leaders in the industry. The board was organized to correct the abuses of the old sweatshops and control the sanitation of the factories. Shortly afterward, Dr. George M. Price and some of the union leaders organized the Union Health Center.

The institution began with an unpretentious and limited service. No attempt was made in the early and formative days to offer those forms of medical care requiring a highly organized staff or fully equipped institution. In 1917, Union Health Center was incorporated and in 1930 was licensed by the State Department of Social Welfare.

Type of service provided.—The primary purpose of the Center is to provide medical care for the immediate benefit of ambulatory patients and to give the physical examinations required for admission to the union and those required in administering the sick-benefit schemes. General examination and treatment of patients

¹ Abstract of an article by Leo Price, M. D., Assistant Director, Union Health Center, in the *Monthly Labor Review*, October 1939.

unable to afford the services of a private physician account for the majority of visits. This system provides for the care of acute and chronic diseases. It includes the regular clinical examination, consultation with specialists when necessary, X-rays, and such laboratory and diagnostic tests as may be required. Complete laboratories and X-ray facilities are provided. Frequently, workers under the care of private physicians, who need X-rays, electrocardiograms, and other diagnostic and laboratory tests obtain this service through the Center at nominal rates, reports of the findings being sent directly to their own physicians. Because of the cost, medical care in the home has never been attempted.

Hospitalization of patients is, of necessity, part of the clinical work but no organized plan of handling this problem has been established. There is no provision for convalescent care, and no attempt has been made to give obstetrical and maternal care to woman members or to the wives of members.

A drug store is maintained as a part of the clinic. The prices ordinarily charged for prescriptions at the Center range from 25 to 65 cents and are usually considerably below the standard costs.

An eye department is maintained for the large number of patients with defective vision. Glasses are furnished at a reduced rate and an attempt is made to induce workers not to buy expensive frames. Dental care was provided for 17 years but was given up for various reasons.

For services not provided by the clinic the patient is directed elsewhere, through the social service department. When the patient lacks funds, the local union's relief committee is advised and financial help is arranged. The Center, itself, frequently makes reductions in its charges so that unemployed members may obtain the necessary medical care. The program of health education is under the direction of the social service department, which carries on its work through the press, union meetings, and in the shops.

The medical staff of the Center includes about 90 physicians, the number varying according to the seasonal demand. They are selected primarily for their professional ability. With the exception of the director, there are no full-time physicians. Arrangements are made for reasonable fees for consultations and operations by non-attendant consultants.

Cost and fees.—The income of the institution is derived from fees collected from patients, fees collected from the sickness-insurance funds for examinations of claimants, and the subsidy provided by the I. L. G. W. U., the parent organization. More than \$150,000 has been spent in equipping the institution.

Any garment worker who is a member of the union and desires medical care may be examined for a fee of \$1. For an additional charge of 50 cents, further examination by specialists may be secured. Low rates are charged for X-rays, laboratory tests, electrocardiograms, and basal metabolism tests. About 35 percent of the patients do not pay for any part of their medical care, this being borne by the local through their sick-benefit and relief funds. For every \$1 collected at the Center in 1938, the cost was \$1.41. This 41 cents represented the subsidy provided by the International Union.

In 1938 the average cost of examining each sick-benefit claimant amounted to \$4.08, yet the entire examination cost, distributed over the insured membership, was only 18 cents per member. The average benefit for the year 1938 amounted to \$1.28 per member. These figures do not include the capital investment and relief expenditures.

From statistics on hospital cases for 1938, and figuring hospitalization costs at \$4 per day, it has been estimated that it would be possible to provide a hospitalization-insurance plan at a net cost of \$1.18 per member.

Examination of applicants.—The medical supervision of the garment workers begins with their entrance into the union, as a physical examination is required before admission to membership. Applicants examined by the physicians of the Center are certified by them to the union as full-beneficial or nonbeneficial members. Full-beneficial members are entitled to the regular sick benefits. All workers over the age of 50 and those having physical defects that may produce disability in the future become nonbeneficial members. When the condition discovered is not of major significance, the member may sign a waiver that in the event the discovered defect does produce disability he will not receive the usual sick benefits. Workers suffering from acute infectious or contagious diseases are temporarily rejected and prevented from working if their condition is such as to endanger their fellow workers. They may be reexamined and accepted when cured.

Whether or not the member is accepted into the sickness-insurance fund, he has the opportunity of using the institution to investigate his condition further and to secure the necessary medical care. Many applicants, in spite of the presence of physical defects, have never before received any medical attention. The following statement shows the number of applicants examined by the Center each year from 1934 to 1938:

1934 -----	15, 679
1935 -----	16, 860
1936 -----	12, 312
1937 -----	13, 418
1938 -----	12, 089

In addition to examining new applicants for membership into the union, many reexaminations are made of union members who have lapsed in payment of their union dues and are required to be reexamined before they can again become eligible for the benefits of sickness insurance. During the period from 1913 to 1920, only about 22,000 general examinations were made at the Center, or about 3,000 per year. During the next 7 years the number of such examinations averaged about 15,000 annually, and from 1928 to 1935 the yearly average was approximately 23,000. In 1936 the number of examinations had increased to 62,000; in 1937 there were 72,500; and in 1938, 85,000, with the probability of as many as 95,000 in 1939.

Local Union Sickness Insurance

Of wider social interest than the ambulatory clinic are the systems of the different New York locals of the I. L. G. W. U. providing cash benefits in case of sickness. The first local sickness-insurance

plan in the I. L. G. W. U. was introduced in 1913. By 1933 six New York City locals with between 20,000 and 25,000 insured members had some form of sickness insurance. During the interval between 1913 and 1933, some of the sickness-insurance systems suffered seriously because of political and economic difficulties within the industry. By 1939 the number of local sick-benefit systems had increased to 15, and there were 3 systems providing tuberculosis benefit only; these are all in New York and vicinity.

There has been a steady increase in the insured membership, which, excluding those locals insuring only for tuberculosis, numbered 75,000 in 1936, 86,000 in 1937, 106,000 in 1938, and approximately 109,000 in 1939. The locals without sickness insurance are those with only a small membership.

Originally, cash benefit was paid only to those disabled from tuberculosis and, later, sanatorium care was provided. Subsequently, cash benefits were paid to members who became disabled from acute illnesses, and still later these benefits were extended to those disabled from certain chronic illnesses and conditions. Union Health Center saw the need of preventive medicine among the workers, and began educating the members to the value of periodic health examinations. The rules of most of the sick-benefit systems were amended to allow two free examinations annually at the Union Health Center and thus prevent possible or future disability by the early discovery of physical defects.

Expansion of sickness insurance in the I. L. G. W. U. was probably the greatest single development from 1933 to 1938. During those years when the locals were in financial distress and the sickness-insurance schemes were not functioning properly, the institution's work was limited almost entirely to the treatment of ambulatory cases. As conditions improved and the sickness-insurance funds again built up their reserves, the expenditures for the membership's benefits increased. The plans, as a rule, include the control and distribution of relief as well as cash and medical benefits.

The systems are compulsory for all qualified members in those locals adopting a sickness-insurance plan. All new members must be physically examined and if found fit must pay the fixed premium to the sick-benefit and relief funds. Nonbeneficial members have all the privileges of regular union membership except those additional rights gained by payment of the sick-benefit premiums.

Medical administration of sick benefits.—During recent years the examination of claimants for sick benefit has greatly increased the medical work. This consists entirely of certification and is carried on at the home of the member as well as at the Center or a hospital. Certification implies more than a routine physical examination and the evaluation of disability. Occasionally it entails a prolonged series of examinations and laboratory and diagnostic tests to establish the diagnosis on which to make a decision concerning disability.

During the successful development of the sickness-insurance schemes, some local unions have used their surpluses to give their members additional medical benefits; in some cases providing more liberal grants for treatment for limited periods of time, or extending X-ray and diagnostic services without direct cost to the member. The

cost of these examinations, whether borne by the individual worker or the local union, is subsidized by the I. L. G. W. U.

Upon receipt of the claim, a physician examines the claimant at the Center, if possible, or visits him at his home or at the hospital. The certificate issued to the local union contains the diagnosis, and the award or denial.

It is important to develop and maintain thorough examination procedure. For this reason, it is not unusual for claimants to be required to undergo numerous examinations by the regular medical examiners or by one or more specialists. In 1938, 5,929 examinations were made at the Union Health Center, 4,585 at home, and 1,659 at hospitals. It was found necessary to order X-ray examination, and laboratory and diagnostic tests in 5.7 percent of all examinations, but specialists were consulted for opinions in only 2.3 percent of all examinations. The average number of examinations per claim has been 2.59, the highest in any one group 3.13 and the lowest 1.64.

Claims for disability may be denied because of restrictive legal provisions, or because the medical examiner found no physical disability.

The annual average period of disability during the 4-year period, 1935 to 1938, was fairly constant. In 1938 the members of the 13 locals received 16,939 weeks of regular and 2,249 weeks of partial benefits, or a total of 19,188 weeks' cash benefits. This represents a total of 146,739 days lost by disabled insured garment workers, an average of 35.44 days' disability for each claimant, or 1.4 working days per insured worker. The cash benefits amounted to \$135,807. The average disability period varied but little in the 13 locals.

Tuberculosis.—The garment workers have given the problem of tuberculosis special consideration since the founding of Union Health Center. Cash benefits for the tuberculous were first paid by the pressers of Local 35. During the past decade some of the locals have established beds for their members in sanatoriums in Brown-Mills, N. J., Denver, Colo., and Duarte, Calif.

The program of tuberculosis control in the past has made it mandatory for all tubercular workers who wish to return to the trade to be under periodic medical supervision at Union Health Center. Re-activated cases are in this way discovered and given the necessary care.

It is estimated that from 1935 to 1939 the incidence of active pulmonary tuberculosis ranged from 3 to 6 cases per 1,000 members. Slightly over half of the cases (50.5 percent) discovered were found to be in moderately advanced stages. Far-advanced tuberculosis was present in 25.8 percent of the cases. Only 23.7 percent of the cases discovered had minimal lesions. From 1935 to 1938 active pulmonary tuberculosis was found in 183 cases, of which 97 cases were in women and 86 in men. Of these cases 74 were under 31 years of age, 38 were between 31 and 40 years, 39 were between 41 and 50 years, 23 were over 50, and the ages of 9 were unknown. During the years 1934 to 1937, the largest number of cases were found among young women under 31 years of age; but as locals with a larger percentage of male members were added to the insured membership, many of these older workers were found to have tuberculosis, often in far-advanced stages.

Working cards, conferring the privilege of working in the industry although the holder of the card is known to be tuberculous, were issued to 55 of the 183 cases mentioned above; 26 of this group lost less than 6 months' time before returning to the industry; 11 lost from 7 to 12 months; 7 lost from 13 to 18 months; 5 lost from 19 to 24 months; 4 were away from the trade more than 2 years; and in 2 cases the time lost was not known.

Other causes of disability.—Among the garment workers, upper respiratory infections are the most frequent cause of disability. Diseases of the lungs such as asthma, chronic bronchitis, and pneumonia, cause workers much loss of time. Minor infections of the ear, nose, and throat are also frequent. Diseases of the digestive system are common, but many of the conditions dealt with are not organic, being due in great part to the economic strain. Outside the regular clinic for diseases of the digestive tract, the services of specialists are also required to take care of diseases of the rectum; the sedentary nature of the trade and the bad hygienic habits of the workers cause a high incidence of hemorrhoids and anal fissures. Many patients are hospitalized for operations for appendicitis, gall-bladder disease, and cancer.

Disability from diseases of the heart and circulation has become of increasing importance since the adoption of sickness-insurance plans among older groups. More than 35 percent of the cloakmakers were found to have some heart defects. There has always been a demand for the treatment of rheumatic conditions at Union Health Center, and a well-organized rheumatic clinic and physiotherapeutic department have always been maintained.

By far the greatest demand for service at the Center during the last few years has been in the eye clinics. Needle workers require good eyesight. Education and the services of eye specialists and eyeglasses at reasonable rates have done much to make the workers conscious of the necessity of protecting their sight.

Among the sick-benefit patients that required hospital care, 18 percent of the operations performed were for appendicitis. Thirty percent of all the women hospitalized had gynecological operations. Of the medical cases, 17 percent had heart disease, 16 percent had diseases of the digestive tract, and 14 percent had diseases of the respiratory system.

General regulations of the funds.—The sickness-insurance plans in the locals of the I. L. G. W. U. operate under a constitution and bylaws. The constitutions have been frequently amended as a result of the experience gained in the past 5 years. Provisions governing the establishment of and payment for claims for disability which are common to most of the funds are as follows:

Members are required to be in good standing in the union and the sick-benefit and relief fund for a certain period of time before they may claim benefit. The benefit is, as a rule, apportioned in weeks of disability at so many dollars per week. Before a member can receive such benefits he must have paid the required premiums. A short waiting period generally must ensue before he can receive benefit.

Failure to pay premiums results in reasonable penalties, consideration being given to the seasonal nature of the industry. In most locals, members in arrears up to 5 months may still receive some of the

benefits, but are penalized from 1 to 3 weeks' benefit according to the number of months they are in arrears. Failure to pay premiums for 39 weeks results in expulsion from the sick-benefit membership. Readmission may be had only by adjustment of payments and a physical reexamination.

In view of the small premium and because of the unusually high proportion of woman members, certain funds have found it impossible to pay benefits for many disabling conditions that occur in women. Therefore, in some (but not all) locals, payments are not made for gynecological conditions or certain potentially disabling illnesses which are common among women in the fourth and fifth decades of life.

In addition to the gynecological conditions, no payment is made for venereal diseases; for injury or invalidism arising from the use of alcohol or resulting from debauchery; or for congenital or acquired conditions present before entrance into the union. Some of the unions have recently amended their constitutions to permit payment for these usually excluded conditions (particularly gynecological) whenever disability leads to hospitalization.

Sick-benefit premiums vary from \$1 per year in those locals which give tuberculosis benefit only to \$6.80 per year in one local which pays for disability arising from sickness and tuberculosis, and also pays relief during periods of financial distress. The majority of the locals charge \$4.20 per year for sickness, tuberculosis, and relief benefits.

Regular cash benefit varies from \$7 to \$10 per week, partial benefit from \$3.50 to \$5 per week, and tuberculosis benefit from \$70 to \$350 per year or sanatorium care. In addition, there are relief benefits which vary from \$25 to \$50 per case, depending upon the member's status in the union and his needs. The medical administration has no connection with the administration of this relief.

Sick benefits are restricted to 10 weeks during one calendar year for any acute illness, and to 20 weeks for a chronic or recurrent illness. Payments may continue, for a given condition, during a subsequent year, but after that no more payments are made for that condition.

Medical Benefits

Local 91, the Children's Dress, Infants' Wear, House Dress, and Bathrobe Makers' Union inaugurated medical benefits in 1937. These benefits are independent of the cash sick benefit and in no way affect the standard provisions of the sickness-insurance arrangement. To obtain medical benefit the member is required to apply for a medical credit at Union Health Center. This entitles him to examinations, treatments, medicines, and eyeglasses, up to a total of \$7.50. As the Center is subsidized, the medical care obtainable for this amount is greater than would be normally expected.

In 1938 Local 32, with a membership of 2,800 corset and brassiere workers, adopted a similar plan. This group has appreciated and taken advantage of the medical benefit to a much greater extent than the members of Local 91. The success of medical benefits in these two groups has influenced still another group, Local 40 (beltmakers), to adopt a plan which began operation in 1940.

Hospitalization

Special provision for hospital care has been attempted by only one group, Local 91. During 1939, the members of this local received additional cash benefits, valued at \$1.50 per day, from the eighth to the twenty-first day of hospitalization. There was no increase in the premium rate. The experience of the first year has been such that extension of the hospital benefits has been proposed.

In the handling of ambulatory patients, the Center meets with many cases requiring hospitalization. In such cases the best possible arrangements are made, having regard to the circumstances of the individual case. During the year 1938, 1,884 claimants among the insured membership were hospitalized. This number represents 40.1 percent of the members who claimed disability, and is indicative of the seriousness of most illnesses encountered. Of every 1,000 garment workers in membership, 18 received hospital care.

The patients spent 31,111 days in the hospitals, the average stay, excluding 4 patients who were hospitalized over 5 months, being 14 days. There was an average of 85 workers in hospitals daily. The highest number of patients on any one day was 122, on May 4 and May 22; the lowest number was 48, on January 1. The majority of the patients (59 percent) remained in the hospital 2 weeks or less, 20 percent remained from 2 to 3 weeks, while 6 percent were in the hospital more than 6 weeks. The largest number of members were hospitalized during April, May, and June, the so-called "slack" season, as operations which could be postponed were arranged for that period.

Women made up 65 percent of the hospital patients and men 35 percent. Workers between the ages of 41 and 50 represented 31 percent of the patients in the hospitals, and those between 31 and 40 years of age, 28 percent. The woman members receiving hospital care were, in the majority of cases, below 40 years of age; 34.7 percent of all women hospitalized were between 31 and 40 years, and 28.4 percent were between 21 and 30 years. Among the men the largest group (38.3 percent) were aged 41 to 50 years, and 31.5 percent were aged 51 to 60 years.

Most of the workers (71 percent) entered the hospital for major operations. Medical conditions were the cause of hospitalization in 29 percent of the cases. There is no record of the number of female members who lost time because of maternity care.

Death Benefits

One of the oldest and most frequent forms of trade-union benefits has been distribution of cash aid upon death of a member. In the I. L. G. W. U. this type of benefit has only recently received attention. Death benefits for all members became effective in July 1938.

In the earlier years of its growth the greatest proportion of the membership was concentrated in New York City. The great majority of the union members belonged to fraternal and mutual benefit associations, many of which offered funeral benefits. Therefore, garment workers in New York City were not in such great need of death bene-

fits as were trade-unionists in international organizations the membership of which was well distributed throughout the United States and which lacked the welfare activity that has been so important a part of the union life of garment workers in New York City. However, after 1933 when garment workers' locals were organized throughout the United States, Canada, and Puerto Rico, the I. L. G. W. U. evolved a plan for the benefit of all its members at a premium of \$1 per year and paying a cash benefit of \$150.

The information accumulated for the first fiscal year, July 1938 to August 1939, does not permit definite conclusions, but is of interest in a discussion of the health program. The figures presented here apply only to the membership of locals having sickness and tuberculosis insurance. Among this group the death rate was 1.9 per 1,000. Among the 18 locals the highest death rate was 7.5 per 1,000—among pressers in the dressmaking industry. Men, mostly over 45 years of age, predominate in this local. The next highest rates were found among cloak pressers (7.2) and operators (6.6) in the cloak-manufacturing branch of the industry. The members in these locals are also predominantly males in the higher age brackets. The lowest death rate occurred in those locals where the membership was composed almost exclusively of young women below 25 years of age.

Of the 261 deaths studied, 193 occurred in men and 68 in women. In the age groups under 41 years, more deaths occurred among women than among men (26 as compared to 11). The greatest number of deaths occurred in the fourth and fifth decades of life among men as well as women (139 men and 39 women).



SICKNESS AND DEATH STATISTICS

Health of Industrial Policyholders, 1940¹

The mortality rate among the millions of industrial policyholders in the Metropolitan Life Insurance Co., who live in every section of the United States and Canada, did not set a new low record in 1940, but the rate for the year was equal to the lowest figure ever registered for this group—7.60 per 1,000 insured lives recorded for 1939.² The crude mortality in the United States in 1940 was slightly higher than that for the previous year, in line with the experience for the general population as shown by provisional figures. However, the death rate showed a moderate decrease when allowance was made for changes in the composition of this group with regard to color, sex, and age. As compared with 1939, the rate for Canadian policyholders showed a decline of 4.1 percent in both the crude and the adjusted rates.

The year 1940 completed an uninterrupted series of mortality records which began 30 years ago. During this period the death rate among these insured persons had fallen 40 percent. If the same ratio of death had prevailed in 1940 as in 1911, there would have been

¹ From the *Monthly Labor Review*, April 1941.

² Metropolitan Life Insurance Co. Statistical Bulletin, January 1941: Excellent Health Record for 1940.

113,295 more deaths among the policyholders, 1 year of age and over, than the number that actually occurred.

The average length of life, or expectation of life at birth, has now reached an all-time high of almost 63 years, a gain of $16\frac{1}{3}$ years in the past three decades. This gain in life expectation has been much more rapid among the industrial policyholders than in the population as a whole. In 1911, the life expectancy of these policyholders was 6.41 years less than that of the general population, but now the indications are that it is on a par with that of the general population. This improvement has been evident at virtually every period of life among the policyholders; but at certain ages the drop in mortality since 1911 has been little short of remarkable. In the group of children aged 1 to 4 years the present rate is only about one-seventh that of 1911, while even in the age group 65 to 74 years the decline amounts to over 25 percent.

Diseases With New Low Rates

Lower mortality rates³ than in any previous year were recorded in 1940 for 10 diseases or conditions—measles, scarlet fever, whooping cough, diphtheria, pneumonia, tuberculosis, diarrhea and enteritis, appendicitis, diseases of the puerperal state, and homicides. The mortality rate for suicides was the lowest in a decade, and the rate for influenza, although lower than in the preceding year, was slightly higher than in 1938.

Of the greatest importance in public-health developments in 1940 is the sharp decline in the mortality from pneumonia. The rate was 35.5 per 100,000 in 1940, as compared with 42.8 in 1939, 50.6 in 1938, and 66.9 in 1937. Prior to 1937, the mortality had fluctuated for a number of years around a level of 70 per 100,000, so that the decline of the last few years may be regarded as a definite fall from an established level to a new one at about a halfway point. The recent introduction of highly effective serums and drugs, which have revolutionized the clinical treatment of pneumonia, is responsible for the increasing control over the disease.

Deaths from influenza were 20 percent lower in 1940 than in 1939, in spite of an epidemic which prevailed in large sections of the country near the close of the year. This was due in part to the comparatively mild character of the disease as compared with the disastrous epidemic of 1918 and 1919.

The mortality rate for tuberculosis declined from 45.2 per 100,000 in 1939 to 44.3 in 1940. The success of the campaign against tuberculosis during the past 30 years is shown by the fact that in 1911 the rate was 224.6 per 100,000 and was 80.9 only 10 years ago.

Measles, scarlet fever, whooping cough, and diphtheria—the principal communicable diseases of childhood—declined 31 percent in the year, or from 4.2 per 100,000 in 1939 to 2.9 in 1940. Each of these diseases reached a new minimum in 1940, and all except whooping cough had a mortality rate of less than 1 per 100,000. Only a com-

³ The 1940 rates are subject to slight correction, since they were based on provisional estimates of lives exposed to risk.

paratively few years ago the death toll from this group of diseases was serious, but it has now been reduced to a point where their complete suppression may be expected.

The public-health movement is said to be responsible for the reduction in mortality from diarrhea and enteritis, which in 1930 had a rate of 20.4 per 100,000 and in 1940 had dropped to a rate of 4.6. Advances in sanitary science, including the pasteurization of milk, the better refrigeration of foods, and the purification of water supplies, as well as the general rise in the standard of living, are the main reasons for this improvement.

A new low death rate was established for diseases of pregnancy and childbirth, the 1940 rate of 4.9 per 100,000 being almost 10 percent lower than the rate for the preceding year. These figures were said to be an understatement of the degree of improvement, since preliminary figures indicated that a larger number of women bore children in 1940 than in the year before. A reduction of 12 percent from the previous year occurred in the mortality from appendicitis, which reached a new low rate of 9.1 per 100,000.

Diseases With Higher Rates

The accident rate of 46.7 per 100,000 was only slightly higher than the 1939 rate, which established a minimum record, and there was no marked change in the leading causes of accidental death.

The chronic diseases of middle and later life were almost entirely responsible for the increases in mortality which occurred among industrial policyholders in 1940. The crude death rates from diabetes, cancer, and the cardiovascular renal diseases were at higher levels than ever before. These increases reflect the increasing proportion of policyholders at the older ages, and it may be expected therefore, that these causes of death will increase in relative importance in the next few decades.



Sickness Among Male Industrial Employees, 1939 ¹

Reports are made periodically to the United States Public Health Service on sickness and nonindustrial injuries causing disability lasting more than 1 week, among approximately 170,000 male members of industrial sick-benefit organizations.² The reporting organizations include mutual sick-benefit associations, group-insurance systems, and company relief departments. The reporting companies are located in nine Eastern and Middle Western States, and in Canada.

The frequency of cases in 1939 was slightly higher than in 1938, the incidence rate being 88.8 per 1,000 men, as compared with 82.2 in the preceding year. This increase was principally due to a larger number of cases of influenza and grippe in 1939.

¹ From the Monthly Labor Review, September 1940.

² U. S. Public Health Service. Public Health Reports, Washington, April 12, 1940.

The following table shows the frequency of disability from various diseases among a group of male industrial workers in 1939, compared with 1938, and for the 5-year period, 1934-38.

*Frequency of disability in a group of industrial workers in specified periods*¹

[Data cover only disability lasting 8 calendar days or longer]

Diseases causing disability	Annual number of cases per 1,000 males		
	1939	1938	1934-38
Sickness and nonindustrial injuries ²	88.8	82.2	87.9
Nonindustrial injuries.....	10.2	11.0	11.5
Sickness ²	78.6	71.2	76.4
Respiratory diseases.....	34.1	26.6	31.3
Influenza and grippe.....	16.5	9.9	14.1
Bronchitis, acute and chronic.....	4.2	4.3	4.2
Diseases of the pharynx and tonsils.....	4.4	4.5	4.4
Pneumonia, all forms.....	3.0	2.3	2.8
Tuberculosis of the respiratory system.....	.7	.9	.9
Other respiratory diseases.....	5.3	4.7	4.9
Nonrespiratory diseases.....	42.5	42.5	42.7
Digestive diseases.....	13.3	13.4	13.4
Diseases of the stomach, except cancer.....	3.5	4.1	3.8
Diarrhea and enteritis.....	1.2	1.0	1.2
Appendicitis.....	4.3	4.0	4.1
Hernia.....	1.5	1.6	1.6
Other digestive diseases.....	2.8	2.7	2.7
Nondigestive diseases.....	29.2	29.1	29.3
Diseases of the heart and arteries, and nephritis.....	4.4	.....	3.8
Other genitourinary diseases.....	2.3	2.3	2.4
Neuralgia, neuritis, sciatica.....	2.2	2.1	2.1
Neurasthenia and the like.....	1.0	.9	1.0
Other diseases of the nervous system.....	1.0	1.2	1.2
Rheumatism, acute and chronic.....	3.4	3.7	4.0
Diseases of the organs of locomotion, except diseases of the joints.....	2.6	2.8	2.9
Diseases of the skin.....	2.7	3.0	2.9
Infectious and parasitic diseases.....	2.1	2.1	2.5
All other diseases.....	7.5	6.9	6.5
Ill-defined and unknown causes.....	2.0	2.1	2.4
Average number of males covered in the record.....	177,333	167,915	161,993
Number of organizations.....	26	26	.....

¹ In 1938 and 1939 the same organizations are included; the rates for the years 1934-38, however, are based on records from the same 26 organizations and some additional reporting organizations.

² Exclusive of disability from the venereal diseases and a few numerically unimportant causes of disability.

There were 34.1 cases of respiratory diseases per thousand male industrial workers in 1939, and 26.6 in 1938, representing a 28-percent increase in 1939 over the preceding year. Pneumonia cases increased from 2.3 cases per 1,000 in 1938 to 3.0 cases in 1939, or 30 percent, but the number of cases of respiratory tuberculosis was lower in 1939 than in 1938. Although there was a large increase in the pneumonia rate in 1939 as compared with 1938, when the rate is compared with the corresponding frequency—2.8—for 1934-38, the increase becomes very much less pronounced. Over the 10-year period 1930 to 1939, the 1939 rate (3.0) was the highest recorded for the decade, while the lowest rate (1.8) occurred in 1933. "The 10 annual rates vary about a mean of 2.4, beginning with the relatively high rate of 2.6 in 1930, decreasing to 1.8 in 1933, gradually rising to 2.9 in 1937, dropping precipitously to 2.3 in 1938, and rising again to the maximum of 3.0."

A comparison of the 1939 rates with the combined rates for 1934-38 shows only a slight difference for all sickness and nonindustrial injuries, but for certain diseases—influenza and grippe, and diseases of the heart and arteries, including nephritis—the rates were unfavorable.



Sickness and Nonindustrial Accidents Among Railroad Employees ¹

The frequency of recorded disabilities lasting 8 calendar days or longer from sickness and nonindustrial accidents among about 60,000 white male railroad employees was reported on by the United States Public Health Service.² The disability data for this group were secured from the medical records of sick-benefit associations of six railroads and form part of the occupational morbidity and mortality study of the National Health Survey. During the years 1930-34 the 60,000 male employees averaged about 50 months of membership in their respective sick-benefit organizations. For cases lasting 8 days or longer over 3 million days of disability were recorded. The average daily percentage of employees disabled was 3.7.

The sickness data did not represent the entire morbidity experience of the group because of the special regulations governing the organizations. Thus, industrial accidents were not included nor were all disabling illnesses and nonindustrial accidents, since most of the associations did not pay benefits for disability resulting from the "improper use of stimulants or narcotics," "immoral practices," venereal disease, voluntary self-injury, the violation of any civil law, and fighting, while one association did not accept applicants with chronic ailments. An age limit for membership of 45 years in four of the associations, it was considered, might result in fewer employees in the older ages in these groups than among railroad employees in general.

Disabilities were classified according to the relation of their onset and termination to the period covered by the study, and fall logically into three groups, i. e., those whose onset and termination in recovery or death occurred during the study period, 1930-34, those whose onset occurred during the study period but whose termination was unknown, and those whose onset was prior to the study period and continued into or beyond it. The disabilities classified in the first and second groups were called cases and the third illnesses. In the three groups there was respectively 30,612 cases, 1,882 cases, and 1,296 illnesses. The days of disability reported related only to those occurring within the study period.

The average daily percentage of employees disabled varied, according to age group, from 1.2 at ages less than 25 years to 10.7 at ages 65 years and over, while the annual number of days of disability per employee progressed steadily in each age group from 4.3 days at ages less than 25 years to 39.1 days at ages 65 and over.

¹ From the Monthly Labor Review, January 1939.

² U. S. Public Health Service. Frequency of Sickness and Nonindustrial Accidents Causing Disability Lasting Eight Calendar Days or Longer Among 60,000 White Male Railroad Employees, 1930-34, Inclusive. By William M. Gafafer. Reprint No. 1924 from the Public Health Reports. Washington, 1938.

In the group of employees less than 25 years of age 41 percent of the cases were of 8 to 14 days in duration. Although the number of cases of this duration constituted the largest percentage in each age group up to the group 65 years and over, the percentage gradually decreased as age increased, dropping to 24 percent at ages 65 years and over. In the latter age group the largest number of cases—28.8 percent—lasted from 15 to 28 days, and the percentage of cases with durations of 50 days or more, and particularly those of duration greater than 98 days were found to increase markedly with increasing age.

There were 1,882 disabling cases that began during the study period but whose termination was unknown. Of these cases 722 had lasted 373 days and over. To obtain the incidence of disabilities these cases were added to the number of cases that began and ended during the study period. Because of the high frequency of long-duration cases in the age groups 55-64 years and 65 years and over, the effect of combining these two classes of cases was reflected largely in these higher age groups. Of the 1,296 disabilities designated as illnesses which began prior to the study period 355 continued throughout the study period. Of this number 131 were in the 45-54 age group, 115 in the 55-64 age group, and 6 were 65 years or older.



Mortality Statistics of American and English Printers¹

A marked improvement between 1901 and 1935 in the life span of members of the International Typographical Union of the United States and Canada and the Typographical Association of England is shown in a report² giving the membership, number of deaths, death rate per 1,000, and average age at death of members of the two unions. The jurisdiction of the Typographical Association includes England, Wales, and Ireland; Scotland and the city of London have separate associations. The jurisdiction of the International Typographical Union covers the United States and some Canadian Provinces.

With the exception of the 4 war years, 1915 to 1918, the death rate per 1,000 members up to 1921 was appreciably higher in the International Typographical Union than in the English association. During the war the English rate increased from the previous normal figure of approximately 10 per 1,000 to 12.23 in 1915, 18.93 in 1916, 23.70 in 1917, and 22.17 in 1918. A similar but smaller increase in the death rate occurred during the years 1917 to 1919 among the union members in this country.

Although the average age at death increased each year for each group up to 1914, with the exception of the year 1911, the age at death was approximately 5 years higher each year in the English union than in the International Typographical Union, the average ages being, respectively, 53.43 and 48.70 in 1914. As a result of the first year of war, however, the average age at death in the English union dropped to 50.72 in 1915 while the American figure was 50.84,

¹ From the Monthly Labor Review, July 1936.

² The Bulletin (organ of International Typographical Union), Indianapolis, February 1936.

and during the 3 following years the English rate reflected the war conditions, dropping to 43.71 in 1916, 39.85 in 1917, and 42.73 in 1918. In 1920 and from 1922 to 1924 the difference in the age at death was approximately 3 years, while from 1925 to 1934 the average age at death increased steadily among the members of the American union to a point where the variation was very slight between the two memberships. In 1934 the average age at death in the International Typographical Union was 61.85, as compared with 61.40 in the Typographical Association.

The following table shows the membership, number of deaths, rate per 1,000, and average age at death in the English and American typographical associations.

Membership, number of deaths, rate per 1,000, and average age of printers at death, 1901 and 1910 to 1935

Year	International Typographical Union				Typographical Association of England			
	Member-ship	Number of deaths	Rate per 1,000	Average age at death	Member-ship	Number of deaths	Rate per 1,000	Average age at death
1901	34,948	406	11.60	41.94	16,600	144	8.78	46.53
1910	47,848	574	12.00	46.07	21,436	227	10.65	51.15
1911	51,095	639	12.50	49.12	21,768	214	9.88	50.93
1912	53,807	655	12.50	48.09	22,078	197	8.97	53.27
1913	55,614	687	12.30	49.24	22,925	224	9.89	54.63
1914	58,537	713	12.18	48.70	23,783	241	10.24	53.43
1915	59,571	696	11.70	50.84	23,617	289	12.23	50.72
1916	60,231	755	12.50	51.73	23,236	440	18.93	43.71
1917	61,350	825	13.44	51.42	23,583	559	23.70	39.85
1918	62,661	849	13.54	50.82	24,762	549	22.17	42.73
1919	65,203	1,142	17.50	45.12	29,567	356	12.04	51.12
1920	70,945	783	11.00	53.17	31,234	281	8.99	55.53
1921	74,355	730	9.80	54.32	31,099	269	8.65	53.79
1922	68,746	818	11.90	54.40	30,716	337	10.97	57.32
1923	68,144	804	11.80	54.40	30,378	316	10.40	57.63
1924	68,944	831	12.00	54.40	30,906	305	9.87	56.44
1925	70,372	856	12.16	57.68	31,918	333	10.43	57.97
1926	72,704	895	12.30	58.05	32,190	364	11.31	60.09
1927	74,829	952	12.70	57.94	31,953	373	11.67	59.29
1928	75,738	947	12.50	58.62	32,557	366	11.24	59.23
1929	76,015	1,099	13.80	58.71	33,499	433	12.92	59.41
1930	77,507	1,056	13.62	59.22	34,098	328	9.62	60.25
1931	77,757	1,143	14.68	59.60	34,495	404	11.71	60.45
1932	76,389	1,137	14.88	61.10	34,598	415	12.02	61.48
1933	74,062	1,065	14.38	60.77	34,778	434	12.48	62.64
1934	73,050	1,211	16.58	61.85	35,163	418	11.09	61.40
1935	73,586	1,197	16.26	62.28				

Industrial Injuries

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Industrial Injuries in the United States ¹

About 1,600,000 persons in industry were killed or injured during 1939, according to estimates of the United States Bureau of Labor Statistics. Of the estimated 16,400 fatalities or permanent total disabilities, 15,000 involved employed workers and 1,400 self-employed workers or proprietors. About 109,400 persons, employed and self-employed, suffered some partial but permanent impairment, and another 1,477,700 were temporarily but totally disabled. The accident experience, by industry groups, in 1939 is given in table 1.

TABLE 1.—*Estimated number of disabling injuries during 1939, by industry groups*

Industry group	Number of injuries					
	Total	To em- ployees	To self- employed	Total	To em- ployees	To self- employed
	All disabilities			Death and permanent total disability		
All industries.....	1,603,500	1,430,300	173,200	16,400	15,000	1,400
Agriculture ¹	257,300	² 257,300	-----	4,300	² 4,300	-----
Mining and quarrying ³	91,000	² 91,000	-----	1,600	² 1,600	-----
Construction ⁴	404,700	366,300	38,400	3,600	3,200	400
Manufacturing ⁵	286,200	268,000	18,200	1,600	1,500	100
Public utilities ⁶	21,000	21,000	-----	500	500	-----
Trade—wholesale and retail ⁶	200,800	157,400	43,400	1,800	1,400	400
Railroads ⁷	34,500	34,500	-----	800	800	-----
Miscellaneous transportation ⁶	54,400	36,800	17,600	800	600	200
Services and miscellaneous industries ⁶	253,600	198,000	55,600	1,400	1,100	300
	Permanent partial disabilities			Temporary total disabilities		
All industries.....	109,400	94,600	14,800	1,477,700	1,320,700	157,000
Agriculture ¹	13,000	² 13,000	-----	240,000	² 240,000	-----
Mining and quarrying ³	2,700	² 2,700	-----	86,700	² 86,700	-----
Construction ⁴	18,100	16,100	2,000	383,000	347,000	36,000
Manufacturing ⁵	17,600	16,500	1,100	267,000	250,000	17,000
Public utilities ⁶	500	500	-----	20,000	20,000	-----
Trade—wholesale and retail ⁶	39,000	31,000	8,000	160,000	125,000	35,000
Railroads ⁷	1,700	1,700	-----	32,000	32,000	-----
Miscellaneous transportation ⁶	1,600	1,200	400	52,000	35,000	17,000
Services and miscellaneous industries ⁶	15,200	11,900	3,300	237,000	185,000	52,000

¹ Based on fragmentary data.

² Includes self-employed.

³ Based largely on Bureau of Mines data.

⁴ Included are injuries to workers on CCC and WPA construction projects amounting to 400 fatalities, 3,100 permanent partial, and 71,000 temporary total disabilities.

⁵ Based on comprehensive survey.

⁶ Based on small sample studies.

⁷ Based on Interstate Commerce Commission data.

¹ Abstract of article by Max D. Kossoris and Swen Kjaer, of the U. S. Bureau of Labor Statistics, in *Monthly Labor Review*, July 1940 (p. 86).

Injuries by Major Industries

Table 2 shows for 1939 the number of injuries by type, and the frequency and severity rates, for a group of almost 27,000 establishments in the more important industries.

TABLE 2.—Injury rates and injuries by extent of disability for 26,994 establishments, 1939

Industry	Number of establishments	Number of employees (in thousands)	Employment hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate ²	Severity rate ³	
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability				Temporary total disability
All industries.....	26,994	4,542	8,760	118,387	(78) 809	6,116	111,462	12,611,506	.....	.....
<i>Manufacturing</i>										
Total, manufacturing.....	19,423	3,741	7,184	102,084	(73) 627	5,782	95,675	10,825,809	³ 15.43	³ 1.64
Chemical products.....	1,594	256	505	5,051	(6) 70	292	4,689	886,719	³ 10.03	³ 1.83
Druggist preparations.....	237	26	52	466	3	7	456	27,703	8.88	.53
Explosives.....	49	8	15	87	7	17	63	61,191	5.66	3.98
Fertilizers.....	363	16	29	767	(1) 11	18	738	117,175	26.35	4.03
Paints and varnishes.....	391	25	50	502	3	17	482	48,357	9.99	.96
Petroleum refining.....	108	65	127	1,104	13	94	997	217,597	8.69	1.71
Rayon and allied products.....	25	37	71	519	4	29	486	78,835	7.36	1.12
Soap.....	79	15	31	304	(1) 5	42	257	84,877	9.84	2.75
Not elsewhere classified.....	342	64	129	1,302	(4) 24	68	1,210	250,984	10.08	1.94
Food products.....	2,362	290	583	12,213	(4) 39	524	11,650	940,928	³ 18.92	³ 1.39
Baking.....	649	51	108	1,279	6	67	1,206	102,407	11.80	.94
Canning and preserving.....	443	47	75	2,015	2	53	1,960	97,463	26.99	1.31
Confectionery.....	221	30	58	717	2	17	698	28,534	12.32	.49
Flour, feed, and other grain-mill products.....	495	27	59	1,156	(2) 6	34	1,116	94,883	19.56	1.61
Slaughtering and meat packing.....	198	103	218	5,381	(2) 17	305	5,059	474,100	24.72	2.18
Sugar refining.....	59	15	29	828	5	34	789	103,874	28.31	3.55
Not elsewhere classified.....	297	17	36	837	1	14	822	39,667	23.31	1.10
Iron and steel and their products.....	2,556	686	1,321	19,680	(22) 189	1,408	18,083	2,671,812	³ 17.59	³ 2.13
Iron and steel.....	288	392	752	6,362	(4) 109	652	5,601	1,376,746	8.46	1.83
Cutlery and edge tools.....	86	9	18	334	2	12	320	24,803	18.72	1.39
Enameling and galvanizing.....	59	11	21	382	0	25	357	28,521	18.37	1.37
Fabricated structural steel.....	265	19	38	1,317	(1) 16	81	1,220	181,303	34.85	4.80
Forgings.....	101	15	28	900	2	48	850	56,055	32.46	2.02
Foundries.....	537	67	126	4,183	(9) 26	132	4,025	348,596	33.15	2.75
Hardware.....	149	24	48	717	(3) 4	62	651	73,482	14.95	1.53
Ornamental metalwork.....	93	4	8	186	1	14	171	19,059	22.79	2.34
Plumber's supplies.....	79	26	49	717	(2) 7	40	670	90,202	14.62	1.84
Stamped and pressed metal products.....	216	20	40	847	2	93	752	95,617	21.24	2.40
Steam fittings and apparatus.....	174	20	38	1,012	(2) 8	46	958	119,066	26.76	3.15
Stoves and furnaces, not electric.....	163	25	47	1,091	(1) 2	55	1,034	61,383	23.05	1.30
Tinware.....	64	15	29	396	0	57	339	46,017	13.54	1.57
Tools, except edge tools.....	100	10	20	366	5	24	337	51,959	18.21	2.58
Wire and wire products.....	61	9	18	277	2	19	256	37,247	15.25	2.05
Not elsewhere classified.....	121	22	41	593	3	48	542	63,756	14.42	1.55
Leather and its products.....	563	140	269	2,716	(1) 8	100	2,608	183,647	³ 9.24	³ 6.60
Leather.....	131	29	57	1,286	4	44	1,238	83,804	22.68	1.48
Boots and shoes.....	378	108	205	1,362	(1) 3	50	1,309	88,310	6.63	.43
Not elsewhere classified.....	54	4	7	68	1	6	61	11,533	9.30	1.58
Lumber and its products.....	1,917	172	328	11,970	(7) 93	670	11,207	1,422,061	³ 46.70	³ 6.01
Logging.....	101	12	21	2,305	(1) 37	72	2,196	393,481	112.36	19.18
Planing mills.....	441	24	47	1,376	5	94	1,277	122,807	29.45	2.63
Sawmills.....	369	36	65	3,346	(3) 30	160	3,156	431,815	51.48	6.64
Furniture.....	698	78	154	3,031	(1) 12	256	2,763	292,942	19.72	1.91
Not elsewhere classified.....	308	22	42	1,912	(2) 9	88	1,815	181,016	45.65	4.32

See footnotes at end of table.

TABLE 2.—Injury rates and injuries by extent of disability for 26,994 establishments, 1939—Continued

Industry	Number of establishments	Number of employees (in thousands)	Employees-hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate	Severity rate	
				Total	Resulting in—					
					Death and permanent total disability	Permanent partial disability				Temporary total disability
<i>Manufacturing—Continued.</i>										
Machinery (not transportation).....	2,263	523	1,019	12,204	(5) 41	957	11,206	1,183,254	311.07	31.12
Agricultural machinery and tractors.....	128	58	112	2,063	4	207	1,852	212,696	18.35	1.89
Construction and mining machinery.....	233	33	64	1,469	4	69	1,396	86,463	23.03	1.36
Electrical equipment and supplies.....	267	179	344	1,928	(2) 14	205	1,709	285,540	5.60	.83
Food-products machinery.....	121	11	23	398	(1) 1	43	354	40,729	17.55	1.80
Metalworking machinery.....	234	35	73	1,075	1	66	1,008	82,667	14.73	1.13
Textile machinery.....	129	17	34	455	0	22	433	18,263	13.47	.54
Special industry machinery, not elsewhere classified.....	322	39	76	1,219	3	110	1,106	129,782	16.06	1.71
General industrial machinery.....	615	102	199	2,706	9	182	2,515	237,643	13.57	1.19
Machinery, not elsewhere classified.....	74	38	72	517	(2) 4	45	468	67,531	7.15	.93
Repair shops.....	140	10	21	374	1	8	365	21,960	17.42	1.02
Paper and allied products.....	768	124	251	5,219	(2) 27	226	4,966	518,579	320.50	31.95
Pulp.....	19	5	8	296	3	12	281	35,459	35.59	4.26
Paper.....	167	40	82	1,836	12	72	1,752	189,642	22.53	2.33
Both paper and pulp.....	59	32	65	1,272	(1) 7	58	1,207	166,171	19.66	2.57
Folding boxes.....	97	6	12	276	1	9	266	22,255	23.77	1.92
Set-up boxes.....	218	10	20	231	0	10	221	8,255	11.78	.42
Corrugated and fiber boxes.....	78	10	20	475	(1) 1	17	457	30,225	23.53	1.50
Not elsewhere classified.....	130	22	45	833	3	48	782	66,572	18.57	1.48
Printing and publishing.....	2,443	129	278	1,899	(1) 8	109	1,782	193,410	3 6.95	3.72
Book and job.....	1,554	59	118	944	4	65	875	110,739	8.03	.94
News and periodical.....	738	60	140	823	3	33	787	69,465	5.90	.50
Not elsewhere classified.....	151	10	21	132	(1) 1	11	120	13,206	6.33	.63
Rubber and its products.....	57	47	90	886	2	43	841	72,440	3 9.75	3.79
Rubber tires.....	25	27	53	545	1	24	520	44,824	10.24	.84
Rubber goods (other than tires).....	32	19	37	341	1	19	321	27,616	9.30	.75
Stone, clay, and glass products.....	926	125	236	5,295	(16) 47	133	5,115	532,032	321.20	32.24
Brick, tile, and terra cotta.....	483	34	62	2,315	(1) 15	44	2,256	181,857	37.12	2.92
Cement.....	111	18	35	111	5	23	83	74,631	3.16	2.13
Glass.....	115	44	83	1,595	(3) 10	41	1,544	136,280	19.33	1.65
Pottery.....	66	18	35	527	(12) 14	5	508	93,791	15.22	2.71
Not elsewhere classified.....	151	12	22	747	3	20	724	45,473	34.66	2.11
Textiles and their products.....	2,908	691	1,276	13,105	(4) 41	482	12,582	919,693	3 9.00	3.58
Carpets and rugs.....	44	30	55	844	2	72	770	87,729	15.23	1.58
Clothing—men's.....	517	76	131	811	2	14	795	37,964	6.18	.29
Clothing—women's.....	518	45	81	348	1	6	341	19,689	4.29	.24
Cotton goods.....	459	227	426	5,358	(1) 20	188	5,150	362,580	12.58	.85
Dyeing and finishing.....	176	36	69	1,054	(1) 6	52	996	111,292	15.19	1.60
Knit goods.....	519	114	209	1,294	2	20	1,272	48,354	6.18	.23
Silk and rayon products, not elsewhere classified.....	127	29	53	615	1	10	604	23,315	11.55	.44
Woolen goods.....	321	104	192	2,204	(1) 5	106	2,093	193,624	11.50	1.01
Not elsewhere classified.....	227	31	59	577	(1) 2	14	561	35,146	9.84	.60
Transportation equipment.....	344	389	698	8,770	(3) 41	576	8,153	399,618	313.08	31.54
Motor vehicles.....	236	332	583	6,820	(3) 24	441	6,355	615,889	11.69	1.06
Shipbuilding.....	54	35	70	1,307	13	90	1,204	183,336	18.55	2.60
Railroad equipment.....	31	12	24	352	3	18	331	46,228	14.57	1.91
Aircraft ⁵	14	8	16	240	1	23	216	51,489	14.59	3.13
Not elsewhere classified.....	9	2	4	51	0	4	47	2,676	13.62	.71

See footnotes at end of table.

TABLE 2.—*Injury rates and injuries by extent of disability for 26,994 establishments, 1939—Continued*

Industry	Number of establishments	Number of employees (in thousands)	Employer-hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate	Severity rate	
				Total	Resulting in—					
					Death and permanent total disability	Permanent partial disability				Temporary total disability
<i>Manufacturing—Continued.</i>										
Miscellaneous manufacturing	722	170	330	3,076	(2) 21	262	2,793	401,616	10.40	1.36
Coke ovens ⁶	35	10	22	73		3	6	27,037	3.36	1.24
Tobacco products	215	48	85	349	(1) 1	33	315	42,488	4.12	.50
Radio and phonograph	48	31	59	336	(1) 1	38	297	30,857	5.70	.52
Smelting and refining (nonferrous)	101	35	74	1,028		7	80	161,378	13.94	2.19
Nonferrous metal products	107	20	39	711		4	80	87,584	18.33	2.26
Miscellaneous manufacturing	216	26	52	579		5	25	52,272	11.19	1.01
<i>Nonmanufacturing</i>										
Construction	7,920	44	70	4,311	(4) 40	160	4,111	475,692	61.84	6.82
Building	7,740	27	42	2,042	(3) 14	58	1,970	184,326	48.24	4.35
Heavy engineering	7,64	9	16	1,464	(1) 20	73	1,371	212,052	93.86	13.59
Highway	7,116	8	12	805		6	29	79,314	68.32	6.73
Public utilities	7,807	547	1,070	8,034	124	102	7,808	1,057,640	8.24	1.11
Communication:										
Telephone	7,27	271	495	1,166	15	3	1,148	113,949	2.36	.23
Transportation	7,118	69	156	2,290	19	4	2,230	222,475	14.68	1.43
Streetcar	7,23	15	33	585	4	5	576	46,367	17.58	1.39
Bus	7,57	17	40	614	4	16	594	54,802	15.50	1.38
Both streetcar and bus	7,38	37	83	1,091	11	20	1,060	121,306	13.13	1.46
Electric power and gas	7,335	190	384	3,803	82	55	3,666	660,668	9.91	1.72
Electric light and power	7,210	101	208	2,185	61	31	2,093	462,418	10.51	2.23
Gas	7,69	14	29	306	2	4	300	27,621	10.72	.97
Both electric and gas	7,56	75	147	1,312	19	20	1,273	170,629	8.90	1.16
Utilities, not elsewhere classified	7,327	17	35	775	8	3	764	60,548	22.32	1.74
Finance, insurance, and real estate	520	14	28	109	1	0	108	7,765	3.90	.28
Wholesale trade	599	22	44	494	1	8	485	18,782	11.26	.43
Retail trade	1,734	71	150	1,393	4	13	1,376	61,834	9.33	1.41
Restaurants	299	10	21	263	1	2	260	11,401	12.34	.53
Retail, not elsewhere classified	1,435	61	129	1,130	3	11	1,116	50,433	8.77	.39
Both wholesale and retail trade	362	7	15	394	2	9	383	22,794	25.62	1.48
Services	2,629	95	200	1,568	(1) 10	42	1,516	141,190	9.53	1.08
Hotels	134	6	12	181	0	0	181	1,759	14.65	.14
Laundry and dry cleaning	1,813	73	157	1,106	(1) 6	36	1,064	96,186	6.97	1.58
Dry cleaning	557	12	26	187	2	4	181	18,902	7.16	.72
Laundry	898	40	85	589	1	22	566	46,172	6.92	.54
Both laundry and dry cleaning	358	21	45	330	(1) 3	10	317	31,112	7.30	.69
Services, not elsewhere classified	682	16	31	281	4	6	271	43,245	9.05	1.39

¹ Figures in parentheses show the number of permanent total disability cases included.

² The frequency rate is the average number of disabling injuries for each million employee-hours worked. The severity rate is the average number of days lost for each thousand employee-hours worked. The standard time-loss ratings for fatalities and permanent disabilities are given in Method of Compiling Industrial Injury Rates, approved by the American Standards Association, 1937.

³ Weighted by employment for manufacturing industries as shown by Census of Manufactures, 1937, and computed for 1939 by means of Bureau of Labor Statistics indexes of employment, and for nonmanufacturing industries by Bureau of Labor Statistics employment data.

⁴ All 12 permanent total disabilities were silicosis cases.

⁵ The experience of all aircraft establishments reporting for 1939 was: Employee-hours worked, 80,000,000; disabling injuries, 1,000; frequency rate, 13.60; and severity rate, 1.86.

⁶ Coke ovens operating in the iron and steel plants only.

⁷ Tabulated by company instead of establishment.

In manufacturing the industries in the "lumber and its products" group contained the highest frequency and severity rates in 1939, as in earlier years. For the entire group, the frequency and severity rates were 46.70 and 6.01. For logging, however, the frequency rate was 112.36 and the severity rate 19.18. These rates were nearly twice as high as the next highest frequency rate of 51.48 for sawmills and three times as high as the severity rate for that industry. The saw-mill frequency rate, in turn, was at least twice as high as that of any of at least four-fifths of all other manufacturing industries.

Other manufacturing industries with high frequency rates were fertilizer, 26.35; canning, 26.99; slaughtering and meat packing, 24.72; sugar refining, 28.31; fabricated structural steel, 34.85; forgings, 32.46; foundries, 33.15; planing mills, 29.45; pulp mills, 35.59; brick, tile, and terra cotta, 37.12; and steam fittings, 26.76.

Industries with low frequency rates were explosives, with a rate of 5.66, a considerable increase over the 1938 rate of 3.62; electrical equipment, 5.60; cement, 3.16, a considerable reduction from the 1938 rate of 4.15; men's clothing, 6.18; women's clothing, 4.29; coke ovens (connected with steel mills), 3.36; and tobacco products, 4.12.

Injuries in Nonmanufacturing Industries

The nonmanufacturing industry with the most severe injury experience during 1939 was construction. For all types of construction the frequency rate was 61.84, and the severity rate 6.82. But within the construction group, heavy engineering had the very high rate of 93.86. The severity rate, however, was somewhat lower than in 1938. Highway construction had 68.32 disabling injuries per million employee-hours and a time charge of 6.73 days per thousand employee-hours worked. Building construction, with a frequency rate of 48.24, had the lowest rate in the construction group—but a higher rate than any other industry surveyed except logging and sawmills.

Trend of Disabling Injuries Since 1926

In table 3 are shown the frequency rates of industrial disabilities in manufacturing from 1926 through 1939. The data give frequency rates, i. e., number of disabilities per million employee-hours worked, for all disabling injuries, death and permanent total disability, permanent partial disability, and temporary total disability.

Analysis of the table reveals a definite downward trend in the over-all frequency rate. The curve has its ups and downs, but the general direction is downward. The high point of 20.78 applies to 1926. The low point of 15.07 was reached in 1938, with the 1939 rate of 15.43 ranking second lowest. On the basis of these rates, there were in 1938 and 1939 only 3 disabling injuries per million hours worked in all manufacturing industries for every 4 in 1926, or a reduction of 25 percent in accident frequency.

Death and permanent total disability, grouped together in table 3, showed little discernible direction until 1935. The frequency rate fluctuated between 0.12 and 0.15. But since 1935 the trend has been downward. Beginning with a rate of 0.13 in 1935, rates for 1936 and 1937 were 0.12, and for 1938 and 1939, 0.10. Compared with 1926, deaths and permanent total disability in 1939 occurred about 30 percent less frequently per million hours worked.

Permanent partial disabilities followed a slightly different pattern, although here, too, the recent trend is downward. Beginning with low rates of 1.09 and 1.05, respectively, for 1926 and 1927, the frequency rate rose to 1.40 in 1934, but declined fairly steadily thereafter to a low of 0.86 in 1938, rising slightly in 1939 to 0.88. The 1939 rate for permanent partial disability in manufacturing is nearly 20 percent lower than that for 1926, and 37 percent below the high rate of 1934.

Temporary total disabilities, comprising the main bulk of disabling injuries, followed virtually the same trend as the total of all disabling injuries. Starting with 19.55 in 1926, the rate dropped to 14.96 in 1931, rose to 17.90 in 1934, and thereafter declined steadily to 13.32 in 1938, rising again to 14.45 in 1939.

The downward trend of disabling injuries is undoubtedly the result of more widespread and more effective safety work in recent years in comparison with that of the late twenties and early thirties.

TABLE 3.—*Industrial-injury frequency rates in manufacturing, 1926-39*¹

Year	Frequency rate of—			
	All injuries	Death and permanent total disability	Permanent partial disability	Temporary total disability
1926.....	20.78	0.14	1.09	19.55
1927.....	19.44	.15	1.05	18.24
1928.....	19.37	.15	1.14	18.08
1929.....	20.62	.13	1.19	19.30
1930.....	19.85	.15	1.21	18.49
1931.....	16.21	.13	1.12	14.96
1932.....	16.81	.15	1.24	15.42
1933.....	19.07	.12	1.20	17.75
1934.....	19.45	.15	1.40	17.90
1935.....	18.31	.13	1.32	16.86
1936.....	17.81	.12	1.25	16.44
1937.....	17.82	.12	1.33	16.36
1938.....	15.07	.10	.86	13.32
1939.....	15.43	.10	.88	14.45

¹ The rates for 1926 through 1935 are those of 30 manufacturing industries adjusted to the experience of the very much larger reporting sample subsequent to 1936.

Table 4 shows indexes of industrial injury frequency rates in manufacturing, 1926-39, by types of disability. The year 1926 is taken as the base or 100.

TABLE 4.—*Indexes of industrial injury frequency rates in manufacturing, 1926-39, by types of disability*

[1926=100]

Year	All disabilities	Death and permanent total disability	Permanent partial disability	Temporary total disability
1926.....	100.0	100.0	100.0	100.0
1927.....	93.6	107.1	96.3	93.3
1928.....	93.2	107.1	104.6	92.5
1929.....	99.2	92.9	109.2	98.7
1930.....	95.5	107.1	111.0	94.6
1931.....	78.0	92.9	102.8	76.5
1932.....	80.9	107.1	113.8	78.9
1933.....	91.8	85.7	110.1	90.8
1934.....	93.6	107.1	128.4	91.6
1935.....	88.1	92.9	121.1	86.2
1936.....	85.7	85.7	114.7	84.1
1937.....	85.8	85.7	122.0	83.7
1938.....	72.5	71.4	78.9	68.1
1939.....	74.3	71.4	80.7	73.9

Injury Experience in the Iron and Steel Industry ¹

Special analyses of accident statistics in the iron and steel industry have been made by the Bureau of Labor Statistics for more than 25 years, and the accident records for the industry are particularly complete. The accompanying statement summarizes the general experience of 1,861 departments in the industry for 1938 and 1939. The frequency rate declined from 10.0 in 1938 to 9.7 in 1939, and the severity rate declined from 1.9 to 1.8.² An increase of 29.4 percent in the number of injuries and 23.9 percent in the days of disability was offset by an increase of 32.8 percent in hours of exposure.

	1939	1938
Total employee-hours of exposure (in thousands).....	842, 305	634, 482
Total number of injuries.....	8, 176	6, 318
Total days of disability.....	1, 520, 887	1, 227, 650
Frequency rate.....	9. 71	9. 96
Severity rate.....	1. 81	1. 93

Table 1 gives detailed data by departments for the year 1939. The highest frequency rate, 51.6, was recorded in the miscellaneous melting and rolling departments. Electric furnaces was second with a rate of 34.0. The highest severity rate was listed for ore docks and yards with 8.1. Electric-furnace departments was again second, with 4.1.

TABLE 1.—*Injuries and injury rates for 1,861 identical departments in the iron and steel industry, 1939*

Department	Num-ber of de-part-ments	Em-ployee-hours (in thou-sands)	Number of injuries			Total time lost (days)	Fre-quency rate ²	Se-ver-ity rate ³	
			Total	Resulting in--					
				Death and per-manent total dis-abil-ity ¹	Per-man-ent par-tial dis-abil-ity				Tem-po-rary total dis-abil-ity
All departments ²	1, 861	842, 305	8, 176	(6) 115	751	7, 310	1, 520, 887	9. 71	1. 81
Melting and rolling.....	503	328, 075	2, 900	(2) 56	320	2, 524	672, 390	8. 84	2. 05
Bessemer converters.....	13	5, 635	37	1	6	30	13, 651	6. 57	2. 42
Blast furnaces.....	54	27, 109	158	8	26	124	82, 912	5. 83	3. 06
Electric furnaces.....	28	2, 293	78	1	1	76	9, 358	34. 01	4. 08
Open-hearth furnaces.....	73	46, 371	392	20	41	331	166, 955	8. 45	3. 60
Bar mills.....	18	7, 217	56	1	2	53	8, 530	7. 76	1. 18
Cold reduction.....	16	15, 917	144	1	29	114	35, 300	9. 05	2. 22
Cold rolling.....	17	7, 011	134	0	12	122	11, 863	19. 11	1. 69
Heavy-rolling mills.....	58	48, 822	306	(1) 9	40	257	93, 461	6. 27	1. 91
Hot mills.....	23	16, 828	291	0	20	271	21, 692	17. 29	1. 29
Hot-strip mills.....	19	20, 047	158	1	31	126	31, 931	7. 88	1. 59

¹ Figures in parentheses show the number of permanent total disability cases included.

² The frequency rate is the average number of disabling injuries for each million employee-hours worked. The severity rate is the average number of days lost for each thousand employee-hours worked. The standard time-loss ratings for fatalities and permanent disabilities are those approved by the American Standards Association, 1937.

³ Except coke-oven and erection departments.

¹ Abstract of an article prepared by George R. McCormack, of the U. S. Bureau of Labor Statistics, in the Monthly Labor Review for August 1940.

² The frequency rate is the average number of disabling injuries for each million employee-hours worked. The severity rate is the average number of days lost for each thousand employee-hours worked. The standard time-loss ratings for fatalities and permanent disabilities are given in Method of Compiling Industrial Injury Rates, approved by the American Standards Association, 1937.

TABLE 1.—*Injuries and injury rates for 1,861 identical departments in the iron and steel industry, 1939—Continued*

Department	Number of departments	Em- ployee- hours (in thous- ands)	Number of injuries			Total time lost (days)	Fre- quency rate	Se- verity rate	
			Total	Resulting in—					
				Death and per- manent total dis- abil- ity	Per- ma- nent par- tial dis- abil- ity				Tem- po- rary total dis- abil- ity
Melting and rolling—Con.									
Light-rolling mills.....	63	35,195	385	(1) 6	37	342	76,999	10.94	2.19
Plate mills.....	27	12,673	79	2	12	65	22,988	6.23	1.81
Rod mills.....	26	6,785	59	1	7	51	14,489	8.70	2.14
Sheet mills.....	37	31,513	229	1	16	212	25,365	7.27	.80
Tube mills.....	27	44,387	380	4	40	336	56,605	8.56	1.28
Miscellaneous.....	4	272	14	0	0	14	291	51.56	1.07
Crucible furnaces.....	3	0	0	0	0	0	0		
Puddling mills.....	1	272	14	0	0	14	291		
Finishing.....	452	185,651	2,855	(2) 15	192	2,648	296,674	15.38	1.60
Axle works.....	4	457	5	0	0	5	17	10.94	.04
Bolts and nuts.....	28	15,658	213	1	16	196	26,533	13.60	1.69
Car wheels.....	21	3,472	92	0	3	89	5,091	26.50	1.47
Cold drawing.....	10	3,362	44	1	5	38	12,146	13.09	3.61
Fabricating shops.....	67	24,282	400	(1) 8	36	356	85,125	16.47	3.51
Forge shops.....	70	25,107	444	0	31	413	30,938	17.68	1.23
Foundries.....	92	35,386	799	2	19	778	45,693	22.58	1.29
Galvanizing and tinning.....	46	26,305	219	1	21	197	25,532	8.33	.97
Nails and staples.....	14	2,716	16	0	3	13	1,473	5.89	.54
Stamping.....	23	11,945	158	0	22	136	16,975	13.23	1.42
Wire drawing.....	46	29,557	381	(1) 2	29	350	42,422	12.89	1.44
Wire springs.....	13	4,031	52	0	3	49	2,118	12.90	.53
Woven-wire fence.....	18	3,373	32	0	4	28	2,611	9.49	.77
Service and maintenance.....	660	174,274	950	30	149	771	341,784	5.45	1.96
Clerical and sales.....	317	40,453	29	0	2	27	1,737	.72	.04
Electrical.....	67	16,691	62	8	10	44	57,292	3.71	3.43
Mechanical.....	157	39,454	689	14	104	571	187,239	7.70	2.09
Ore docks and yards.....	4	388	4	0	1	3	3,138	10.32	8.09
Power houses.....	27	5,632	15	0	5	10	2,491	2.66	.44
Yards and transportation.....	88	21,657	151	8	27	116	39,887	6.97	4.15
Miscellaneous labor.....	202	137,666	1,125	(2) 13	75	1,037	171,237	8.17	1.24
Not elsewhere classified.....	44	16,639	346	1	15	330	38,802	20.79	2.33
Coke ovens.....	29	16,527	43	2	4	37	16,394	2.60	.99
Erecting.....	3	1,889	186	6	11	169	45,421	98.45	24.04

Experience of a Select Group of Establishments

Table 2 gives the frequency rates by cause of injury for a select group of establishments that have consistently carried on a safety program. Compared with the frequency rate of the iron and steel industry of 9.7, this group with a total of 269 million employee-hours has a rate of 4.4, less than one-half the industry rate. If the entire industry had as favorable a rate, there would have been only 3,705 accidents instead of 8,176. This table shows the decided drop in injuries during the period 1913 to 1939 and illustrates what can be done under an organized safety program.

TABLE 2.—Frequency rates for disabling injuries in a select group of iron and steel establishments, 1913 to 1939, by causes of injuries

Cause of injury	1913	1915	1920	1925	1930	1935	1936	1937	1938	1939
All causes ¹	60.3	41.5	23.1	8.2	7.7	6.3	7.2	6.8	5.7	4.4
Machinery.....	7.3	4.9	3.4	1.6	1.5	1.7	1.7	1.7	1.6	1.4
Other than cranes.....	3.8	2.6	1.5	.7	.5	.6	.6	.7	.7	.6
Caught in.....	2.5	1.7	1.0	.5	.4	.5	.4	.5	.5	.4
Breaking.....	.1	.1	.1	(²)	(²)	(²)	(²)	(²)	(²)	(²)
Struck by load.....	1.2	.8	.4	.2	.1	.2	.2	.2	.2	.1
Hoisting apparatus.....	3.5	2.3	1.9	.9	1.0	1.1	1.1	1.0	.9	.8
Overhead cranes.....	2.8	2.0	1.5	.7	.7	.7	.8	.8	.6	.6
Locomotive cranes.....	.3	.2	.2	.1	.2	.3	.2	.2	.3	.2
Other.....	.4	.1	.2	.1	.1	.1	.1	.1	.1	(²)
Vehicles.....	2.3	1.6	1.1	.3	.3	.2	.2	.3	.2	.2
Hot substances.....	5.4	3.7	2.4	.6	.4	.4	.5	.6	.4	.4
Electricity.....	.5	.2	.3	.1	(²)	.1	(²)	(²)	(²)	(²)
Hot metal.....	3.6	2.3	1.7	.4	.3	.3	.3	.4	.3	.3
Steam, hot water, etc.....	1.3	1.2	.4	.1	.1	.1	.2	.2	.1	.1
Falls of persons.....	4.5	3.5	2.5	1.1	1.0	1.0	1.0	.8	1.0	.5
From ladders.....	.3	.1	.1	.1	(²)	.1	.1	(²)	.1	(²)
From scaffolds.....	.2	.2	.2	.1	.1	.1	.1	.1	.1	(²)
Into openings.....	.2	.1	.1	(²)	(²)	(²)	.1	(²)	(²)	(²)
Slipping or stumbling.....	3.8	3.1	2.1	.9	.9	.8	.8	.6	.8	.4
Falling material, not handled by injured.....	1.2	.7	.2	.1	.1	(²)	.1	(²)	.1	.1
Hand tools and handling of objects.....	26.7	20.6	10.4	3.4	3.6	2.5	2.8	2.5	1.9	1.5
Objects dropped in handling.....	11.2	7.6	4.4	1.6	1.9	1.0	1.2	1.1	.7	.7
Caught between material.....	3.4	2.6	1.3	.4	.7	.4	.4	.4	.4	.3
Hand trucks, etc.....	1.9	1.4	.6	.2	.2	.1	.1	.1	.1	(²)
Strain in handling.....	2.5	2.5	1.1	.3	.2	.3	.4	.3	.3	.2
Objects flying from tools.....	.2	.1	.1	(²)	(²)	(²)	(²)	(²)	(²)	(²)
Slivers, sharp edges, etc.....	3.8	3.8	1.5	.4	.2	.4	.3	.2	.2	.1
Hand tools.....	3.7	2.6	1.4	.5	.4	.4	.4	.4	.3	.2
Miscellaneous.....	12.9	6.5	3.1	1.1	.8	.5	.8	.8	.6	.4
Asphyxiation.....	.3	.1	.1	(²)	(²)	(²)	(²)	(²)	(²)	(²)
Objects flying from material, striking body.....	.8	.6	.3	.1	(²)	.1	.1	.1	.1	(²)
Objects flying from material, striking eye.....	2.9	1.7	1.1	.2	.2	.1	.2	.2	.1	.1
Heat.....	.9	.4	.1	(²)	.1	(²)	.1	(²)	(²)	(²)
Other.....	8.0	3.7	1.5	.8	.5	.3	.4	.5	.3	.3

¹ Totals and subtotals are based on employee-hours rather than on totals of rounded individual figures.

² Less than 0.05.



Causes of Accidents in the Construction Industry¹

In 1939, construction accounted for a greater number of industrial injuries than any other industry. Estimates put the total number of injuries at 404,700, of which 3,600 resulted in death, 18,100 in permanent impairment, and the remainder in temporary disabilities.

A study of the experience of 360 companies shows, for every million hours worked, an average of nearly 76 disabling injuries. Of every 100 employees, working on the average about 1,400 hours during the year, nearly 11 were injured.

Of the companies surveyed, 220 were engaged in building erection, 48 in heavy and railroad construction, and 92 in highway construction. The building-construction group, with nearly 15,000 workers, experienced the lowest injury frequency rate, with 68.53 injuries per million employee-hours. The highway-construction companies, with

¹ Abstract of article by Swen Kjaer and Max D. Kossoris, of the Bureau of Labor Statistics, in the Monthly Labor Review for October 1940.

slightly over 8,000 employees, had a frequency rate of 74.34. The rate for heavy- and railroad-construction firms, with 7,000 employees, however, was 91.31, about one-third above that for building and nearly one-fourth above that for highway construction. In terms of the severity rate (i. e. the number of days lost per 1,000 hours worked), heavy and railroad construction again experienced the highest rate, 9.92. The severity rate for building construction, 7.03, however, exceeded that of highway construction, 6.38. The total time lost in all three groups was about 324,000 days.

Of every 1,000 injuries, 6 resulted in death and 43 in permanent impairment. The average time charge per permanent injury was 1,138 days, and the average duration per temporary injury, 18 days. There was little difference among the three types of construction in the death rate, with building as well as heavy and railroad construction averaging 6 per 1,000 injuries, and highway construction 5. But there was considerable difference in the permanent disability distribution, with heavy and railroad construction leading with 56 such injuries out of every 1,000.

TABLE 1.—*Injury rates in three branches of construction, 1939*

Item	Type of construction			
	All types	Building	Heavy and railroad	Highway
Number of companies reporting.....	360	220	48	92
Frequency rate (average number of disabling injuries per million hours worked).....	75.83	68.53	91.31	74.34
Severity rate (average number of days lost per thousand hours worked).....	7.60	7.03	9.92	6.38
Disability distribution per thousand injuries, for—				
Death and permanent total disability.....	6	6	6	5
Permanent partial disability.....	43	41	56	31
Temporary total disability.....	951	953	938	964
Average time loss per disabling injury: ¹				
Permanent partial disability..... days..	1,138	1,225	957	1,340
Temporary total disability..... do.....	18	19	20	16

¹ Each death or permanent total disability is charged with 6,000 days lost.

In sharp contrast with the injury experience of the companies in heavy construction is that of the Tennessee Valley Authority. For a total of nearly 24 million employee-hours worked, TVA employees had 366 disabling injuries. With more than twice the exposure, the number of disabling injuries was only about one-third as large as for the private companies surveyed. One very important reason for this difference is TVA's extensive safety program.

An analysis of individual company records indicated that in building construction the small companies, with 1 to 24 employees, and the largest, with 400 or more employees, had the lowest injury-frequency rates. The same was not true for heavy and railroad construction, in which small companies had a relatively high rate. The large firms had a much lower rate, second only to those with 25 to 49 employees. In highway construction, however, the largest companies had the worst and the smallest companies the best injury-frequency experience.

The individual company reports disclosed a variety of experiences. In each type of construction, some companies with large numbers of employees had fewer injuries than did small concerns. On the other hand, companies with about the same number of employees varied widely in the number of injuries sustained. Furthermore, an analysis of individual accidents discloses that many of them could have been prevented by attention to fundamental safety precautions.

Type of Disabling Accident

All companies reporting.—Of the accident types listed, "struck by falling objects" recurred most frequently, in 14.6 percent of the total. The "stepping on or striking against objects" type of accident ranked second with 12.6 percent of all injuries, and "strains" third with 11.9 percent. Injuries caused by being "struck by moving objects" were 9.2 percent of the total, but motor vehicles were responsible for only 1.5 percent. Falls from elevations, with 8.5 percent of all injuries, were twice as frequent as falls on level surfaces, recorded in 4.3 percent. For the group as a whole, machinery accidents were infrequent, with only 2.3 percent of the injury total assigned to this accident type.

Eight of the 16 fatalities, and the 2 permanent total disabilities, were equally divided between the "struck by falling objects" and the "falls from elevations" types of accidents. The largest number of permanent impairments ascribed to any one accident type, 42, was due to being caught between objects, about half of which consisted of machinery. The accident type ranking second in number of permanent impairments was "struck by falling objects," with 31 cases.

Building construction.—In building construction, as in the case of the entire construction group, the accident type "struck by falling objects" recurred more than any other. It was responsible for 14.5 percent of all injuries and about 20 percent of all permanent impairments. For every million hours worked, 10 workers were disabled by being "struck by falling objects."

"Stepping on or striking against objects" and "strains" each accounted for about the same proportion of injuries, 13.6 and 13.4 percent, respectively. These two types plus the "struck by falling objects" type accounted for nearly 42 percent of all reported injuries.

Falls from elevations, accounting for 11.4 percent of the injuries—more than twice the proportion of injuries caused by falls on a level surface—were responsible for exactly half of all fatalities and permanent total disabilities. Injuries caused by being struck by falling objects and being caught between objects accounted for about 40 percent of all permanent injuries, with the two accident types evenly divided.

Heavy and railroad construction.—In heavy and railroad construction "struck by falling objects" was most common of the accident types specifically identified. It was listed for 129 injuries, 2 of which resulted in death. The accident type "stepping on or striking against objects" was a close second with 106 injuries, nearly 11 percent of the total. Strains, with more than 9 percent of the total, ranked third in frequency. The two types of falls, combined, also resulted in more than 9 percent of all injuries, with falls from elevations considerably exceeding those on a level surface.

No single accident type stood out for injuries resulting in death, but being "caught between objects" caused about one-third of the reported permanent injuries. Half of these involved machinery. Another quarter of the permanent injuries was due to workers being struck by falling objects.

Again in sharp contrast with the experience in the private companies engaged in heavy construction was the accident record of the Tennessee Valley Authority. For an exposure of nearly 2½ million employee-hours, the construction activities on the Chickamauga Dam resulted in only 23 disabling injuries, or a frequency rate of 9.5—one-tenth of the rate for the private establishments surveyed. For about 1 million hours spent on reservation clearance in connection with this dam, the frequency rate was 66.9, but even this rate was a considerable improvement over the 1938 rate of 160.1. Construction and maintenance activities, with nearly 2,365,000 employee-hours of exposure had a frequency rate of 19.9. The Guntersville dam project, with an exposure of 1,348,000 hours, had a frequency rate of 16.3, and the Hiawasse dam, with more than 2 million hours, a rate of 14.0.

Highway construction.—"Struck by falling objects" injured more workers in highway construction than any other accident type. Of the 135 workers so injured, 2 were killed and 4 permanently impaired. Moving objects caused 120 injuries, 30 of which involved motor vehicles and caused 1 death. "Stepping on and striking against objects" caused 108 injuries, and overexertion or improper working posture resulted in 103 strains. Of 85 falls, 51 were from elevations and the rest on level surfaces. Six of the 34 injuries caused by being caught between machinery resulted in permanent impairments, but none of the injuries resulted in death.

TABLE 2.—*Injury rates, by type of accident, for 360 construction companies, 1939*

Type of accident	Number of injuries resulting in—			Total injuries		Total days lost		Injury rates	
	Death and permanent total disability ¹	Permanent partial disability	Temporary total disability	Number	Per cent	Number	Per cent	Frequency	Severity
All construction (360 companies, 29,861 employees, 42,660,936 employee-hours worked)									
All types.....	(2) 7 18	140	3, 077	3, 235	100. 0	324, 269	100. 0	75. 83	7. 60
Struck by falling objects.....	(1) 5	31	435	471	14. 6	73, 895	22. 8	11. 04	1. 73
Struck by moving objects.....	3	16	279	298	9. 2	42, 450	13. 1	6. 99	1. 00
Motor vehicles.....	3	4	43	50	1. 5	24, 198	7. 5	1. 17	. 57
Other objects.....	0	12	236	248	7. 7	18, 252	5. 6	5. 81	. 43
Falls on level surface.....	1	2	137	140	4. 3	9, 472	2. 9	3. 28	. 22
Falls from elevation.....	(1) 5	17	252	274	8. 5	73, 555	22. 7	6. 42	1. 72
Caught between.....	0	42	164	206	6. 4	33, 700	10. 4	4. 83	. 79
Machinery.....	0	22	52	74	2. 3	21, 470	6. 6	1. 73	. 50
Other objects.....	0	20	112	132	4. 1	12, 230	3. 8	3. 09	. 29
Stepping on or striking against objects.....	0	7	402	409	12. 6	16, 436	5. 1	9. 59	. 39
Strains.....	0	3	381	384	11. 9	9, 284	2. 9	9. 00	. 22
All others.....	4	22	690	716	22. 1	58, 700	18. 1	16. 78	1. 38
Unclassified.....	0	0	337	337	10. 4	6, 777	2. 1	7. 90	. 16

¹ Figures in parentheses show the number of cases of permanent total disability included.

Distribution of Injuries

Some companies had few or no injuries, while others had more than their proportionate share. In building construction, about 40 percent of all injuries occurred within about 25 percent of the total employee-hours of exposure. Companies with nearly 9 percent of the total exposure had no injuries at all, and companies with 22 percent of exposure had only 11 percent of the total injuries.

In heavy and railroad construction, the exposure without injuries (1.3 percent) was negligible. On the whole, the percentage of exposure in any one injury group was closely matched by a similar percentage of injuries in the same group.

In highway construction, on the other hand, companies with nearly 10 percent of the exposure hours had no disabling injuries, and 43.5 percent of the total exposure had only 23.5 percent of the total injuries. On the other hand, 19 percent of the total exposure accounted for about 38 percent of all injuries.



Causes of Accidents in Lumber Manufacture ¹

For years the logging, sawmill, and planing-mill industries have been conspicuous for high accident rates. Indeed, since 1926, when the Bureau of Labor Statistics began to compile industrial-injury rates for manufacturing industries, logging has consistently had the highest number of injuries per million employee-hours worked. To throw light on the accident causes in these industries, a special survey, covering the year 1939, was made by the Bureau of Labor Statistics. In this survey 2,147 establishments cooperated; of these 388 were engaged in logging, 857 were sawmills, and 902 planing mills.

For the logging group surveyed, the 1939 frequency rate was 105.39, with 173 disabling injuries for every thousand workers. The severity rate, i. e., the days of disability charged per thousand hours worked, also was relatively high, 17.95.² Out of every 1,000 injuries, 15 resulted in death and 2 in permanent total disability; 30 in partial but permanent impairment; and 953 in temporary disability with an average time loss of 22 days per case.

Next to logging, sawmills have consistently had a noticeably high injury experience, while planing mills had the least severe injury experience of the 3 industries studied.

TABLE 1.—*Injury rates in lumber manufacture, 1939*

Item	Logging	Sawmills	Planing mills
Number of establishments reporting	388	857	902
Frequency rate (average number of disabling injuries per million hours worked)	105.39	48.78	32.69
Severity rate (average number of days lost per thousand hours worked)	17.95	4.70	2.91
Disability distribution, per thousand injuries:			
Death and permanent total disability ¹	17	5	3
Permanent partial disability	30	46	67
Temporary total disability	953	949	930
Average time loss per disabling injury:			
Permanent partial disability	1,603	1,069	852
Temporary total disability	22	19	16

¹ Each death or permanent total disability is charged at 6,000 days.

² Abstract of article by Max D. Kossoris and Swen Kjaer, of the U. S. Bureau of Labor Statistics, in the Monthly Labor Review for September 1940.

³ The time-loss ratings used for fatal and permanent injuries are those approved by the American Standards Association in 1937. Because of the great variations in evaluating less than full impairment in cases of permanent injury, every such disability was rated at its full value.

Type of Disabling Accident

In table 2 are shown the types of accidents and the objects in connection with which they occurred, for each of the three types of industries surveyed, as well as the days lost and the frequency and severity rates for each type.

More than half of the injuries in logging resulted from the workers being struck by or striking against objects, particularly axes, saws, and other hand tools. One-third of all deaths in this classification were caused by falling trees or parts of trees. The same type of accident (i. e., struck by or striking against) occurred in nearly 50 percent of all sawmill injuries, with logs or lumber involved most frequently. In planing mills, too, the same kind of accident predominated, accounting again for nearly half of all injuries; the objects involved most frequently, however, were power saws and other power-cutting machinery.

TABLE 2.—*Injury rates, by type of accident, for 2,147 lumber manufacturing establishments, 1939*

Type of accident	Number of injuries resulting in—			Total injuries		Total days lost		Injury rates	
	Death and permanent total disability ¹	Permanent partial disability	Temporary total disability	Number	Per cent	Number	Per cent	Frequency	Severity
Logging (388 establishments, 26,964 employees, 44,170,851 employee-hours worked)									
All types.....	(7) 78	141	4,436	4,655	-----	792,961	-----	105.39	17.95
Struck by or striking against.....	(6) 60	82	2,439	2,581	55.4	553,325	69.8	58.43	12.53
Falling trees, limbs, branches.....	(1) 20	24	483	527	11.3	188,864	23.8	11.93	4.28
Moving logs.....	(2) 14	13	348	375	8.1	115,929	14.6	8.49	2.62
Vehicles and machinery in motion.....	(3) 17	9	157	183	3.9	125,574	15.8	4.14	2.84
Axes, saws, and other hand tools.....	2	21	1,096	1,119	24.0	53,908	6.8	25.33	1.22
Other objects.....	7	15	355	377	8.1	69,050	8.7	8.54	1.56
Caught in, on, or between.....	5	37	503	545	11.7	79,919	10.1	12.34	1.81
Logs, or log and other object.....	3	12	184	199	4.3	41,335	5.2	4.51	.94
Chains, cables, ropes.....	0	12	145	157	3.4	11,473	1.4	3.55	.26
Machinery.....	0	7	58	65	1.4	7,088	.9	1.47	.16
Other objects.....	2	6	116	124	2.7	20,023	2.5	2.81	.45
Falls from.....	(1) 5	12	424	441	9.5	74,005	9.3	9.98	1.68
Trees or logs.....	2	6	244	252	5.4	36,030	4.5	5.71	.82
Platforms and ladders.....	(1) 1	3	32	36	.8	13,631	1.7	.82	.31
Other elevations.....	2	3	148	153	3.3	24,344	3.1	3.46	.55
Falls on same level.....	0	1	274	275	5.9	11,587	1.5	6.23	.26
All other accident types.....	8	7	646	660	14.2	69,714	8.8	14.94	1.58
Unclassified.....	0	2	151	153	3.3	4,411	.6	3.46	.10

¹ Figures in parentheses show the number of cases of permanent total disability included.

TABLE 2.—*Injury rates, by type of accident, for 2,147 lumber manufacturing establishments, 1939—Continued*

Type of accident	Number of injuries resulting in—			Total injuries		Total days lost		Injury rates	
	Death and permanent total disability	Permanent partial disability	Temporary total disability	Number	Per cent	Number	Per cent	Frequency	Severity
Sawmills (857 establishments, 54,841 employees, 97,748,744 employee-hours worked)									
All types.....	(1) 23	219	4,526	4,768	-----	459,849	-----	48.78	4.70
Struck by or striking against.....	12	134	2,090	2,236	46.9	255,790	55.6	22.87	2.62
Power saws or other power-cutting machinery.....	1	88	267	356	7.5	82,940	18.0	3.64	.85
Hand tools.....	0	6	256	262	5.5	12,199	2.7	2.68	.12
Logs or lumber.....	8	29	1,086	1,123	23.6	110,421	24.0	11.49	1.13
Vehicles.....	1	4	88	93	2.0	16,477	3.6	.95	.17
Other objects.....	2	7	393	402	8.4	33,753	7.3	4.11	.35
Caught in, on, or between.....	2	60	570	632	13.3	84,342	18.3	6.47	.86
Machinery.....	1	27	212	240	5.0	43,537	9.5	2.46	.45
Conveying equipment.....	1	19	145	165	3.5	26,045	5.7	1.69	.27
Other objects.....	0	14	213	227	4.8	14,762	3.2	2.32	.15
Falls—one elevation to another.....	(1) 3	4	276	283	5.9	29,668	6.4	2.90	.30
Falls—on same level.....	0	3	285	288	6.0	9,578	2.1	2.95	.10
All other accident types.....	5	5	879	889	18.6	52,929	11.5	9.09	.54
Unclassified.....	1	13	426	440	9.2	27,602	6.0	4.50	.28
Planing mills (902 establishments, 44,731 employees, 87,179,585 employee-hours worked)									
All types.....	(1) 8	190	2,652	2,850	-----	253,452	-----	32.69	2.91
Struck by or striking against.....	2	145	1,227	1,374	48.2	144,796	57.1	15.76	1.66
Power saws or other power-cutting machinery.....	0	125	413	538	18.9	91,425	36.1	6.17	1.05
Hand tools.....	0	2	94	96	3.4	2,316	.9	1.10	.03
Logs or lumber.....	1	7	404	412	14.5	21,692	8.6	4.73	.25
Vehicles.....	1	1	78	80	2.8	11,293	4.5	.92	.13
Other objects.....	0	10	238	248	8.7	18,070	7.1	2.84	.21
Caught in, on, or between.....	1	30	337	368	12.9	34,291	13.5	4.22	.39
Machinery.....	0	21	141	162	5.7	19,358	7.6	1.86	.22
Conveying equipment.....	0	2	59	61	2.1	1,545	.6	.70	.02
Other objects.....	1	7	137	145	5.1	13,388	5.3	1.66	.15
Falls—one elevation to another.....	1	6	131	138	4.8	25,110	9.9	1.58	.29
Falls—on same level.....	1	1	154	156	5.5	12,725	5.0	1.79	.15
All other accident types.....	(1) 3	7	673	683	24.0	34,187	13.5	7.83	.39
Unclassified.....	0	1	130	131	4.6	2,343	.9	1.50	.03

Size of Establishment

It is often claimed that, in general, the larger establishment has the better safety record. Whatever may be the merits of this claim as regards other industries, it did not hold true in the logging, sawmill, and planing-mill establishments surveyed. As is apparent from table 3, logging establishments with 100 or more employees had higher injury frequency rates than did the smaller establishments. In fact, the smallest establishments, with 1 to 24 employees, had the lowest rate,

85.54. The group with 50 to 99 employees had the second lowest rate, 90.63, and each of the other groups had frequency rates above 100.

In sawmills, too, the largest plants had the highest frequency rates. Mills with 200 to 399 workers had a rate of 53.34, and those with 400 or more workers a rate of 54.58. There was little variation in the frequency rate for smaller-size establishments, although within these the rate of 46.48 for the smallest-size group was somewhat higher than those of the other groups.

Only in planing mills did the largest-size group, i. e., with 400 or more employees, have the lowest frequency rate. Its rate of 29.42, however, was only slightly lower than that of any of the other size groups. As a whole, there was little difference between the frequency rates of small-, medium-, and large-size establishments.

TABLE 3.—*Injury experience of lumber manufacturing establishments, by number of employees, 1939*

Item	All establishments	Establishments with classified number of employees					
		1-24	25-49	50-99	100-199	200-399	400 and over
Logging:							
Number of establishments.....	388	171	76	65	46	20	10
Number of employees.....	26,964	1,990	2,662	4,506	6,400	5,767	5,639
Employee-hours worked (thousands).....	44,171	3,016	4,070	7,260	10,029	9,981	9,815
Disabling injuries.....	4,655	258	430	658	1,072	1,132	1,104
Frequency rate.....	105.39	85.54	105.90	90.63	106.89	113.42	112.48
Sawmills:							
Number of establishments.....	857	360	188	172	90	30	17
Number of employees.....	54,841	4,709	6,573	12,022	12,423	8,058	11,056
Employee-hours worked (thousands).....	97,749	6,906	10,603	21,166	22,406	15,618	21,050
Disabling injuries.....	4,768	321	465	961	1,039	833	1,149
Frequency rate.....	48.78	46.48	43.86	45.40	46.37	53.34	54.58
Planing mills:							
Number of establishments.....	902	452	218	126	69	28	9
Number of employees.....	44,731	5,595	7,501	8,627	9,434	7,853	5,721
Employee-hours worked (thousands).....	87,180	10,661	14,701	16,830	18,429	15,920	10,639
Disabling injuries.....	2,850	360	468	562	626	521	313
Frequency rate.....	32.69	33.77	31.83	33.39	33.97	32.73	29.42

Injury Experience of Individual Establishments

A comparison of establishments by size groups obscures the fact that considerable variations were found in the experiences of individual establishments, regardless of size. In logging, for instance, an establishment with 6 employees reported 6 disabling injuries. On the other hand, an establishment with 109 employees reported no disabling injuries and one with 79 employees, only 2 such injuries. Again, an establishment with 552 workers had 124 injuries, but another establishment with 565 employees had 65 injuries.

The same variations were found in sawmills and planing mills. A sawmill with 191 employees had 48 disabilities, whereas another with 225 workers had only 3. Similarly, a planing mill with 823 workers reported 15 injuries, whereas one with only 35 employees had 22 injuries. In terms of disabling injuries per 100 workers, these establishments experienced ratios all the way from 0 to 100.

That injuries can be prevented is shown clearly in table 4. Out of the 2,147 establishments, 814 had no disabling injuries during 1939. In terms of employee-hours of exposure, these establishments repre-

sented slightly over 13 percent. Within the individual industries, the no-injury establishments in logging included 5.7 percent of the total employee-hour exposure; in sawmills, 12.4 percent; and in planing mills, 17.9 percent. A count of injury-free establishments includes 37 percent of the sawmills and 44 percent of the planing mills.

TABLE 4.—*Distribution of disabling injuries in lumber manufacturing establishments, 1939*

Number of injuries per establishment	Number of—			Cumulative				
	Estab-lish-ments	Em-ployee-hours (thou-sands)	Injuries	Total			Percent of total	
				Estab-lish-ments	Em-ployee-hours (thou-sands)	Injuries	Em-ployee-hours	Injuries
Logging:								
None	99	2, 513	0	99	2, 513	0	5. 7	0
1-5	133	5, 084	296	232	7, 597	296	17. 2	6. 4
6-10	45	3, 343	336	277	10, 940	632	24. 8	13. 6
11-20	48	7, 255	746	325	18, 195	1, 378	41. 2	29. 6
21-30	22	3, 852	522	347	22, 047	1, 900	49. 9	40. 8
31-40	13	3, 627	474	360	25, 674	2, 374	58. 1	51. 0
41 and over	28	18, 499	2, 281	388	44, 173	4, 655	100. 0	100. 0
Total.....	388	1 44, 171	4, 655					
Sawmills:								
None	318	12, 135	0	318	12, 135	0	12. 4	0
1-5	330	22, 876	768	648	35, 011	768	35. 8	16. 1
6-10	90	11, 923	693	738	46, 934	1, 461	48. 0	30. 6
11-20	68	16, 472	1, 008	806	63, 406	2, 469	64. 9	51. 8
21-30	24	9, 516	588	830	72, 922	3, 057	74. 6	64. 1
31-40	10	5, 617	343	840	78, 539	3, 400	80. 3	71. 3
41 and over	17	19, 210	1, 368	857	97, 749	4, 768	100. 0	100. 0
Total.....	857	97, 749	4, 768					
Planing mills:								
None	397	15, 571	0	397	15, 571	0	17. 9	0
1-5	357	25, 947	790	754	41, 518	790	47. 6	27. 7
6-10	74	13, 173	584	828	54, 691	1, 374	62. 7	48. 2
11-20	48	15, 147	656	876	69, 838	2, 036	80. 1	71. 2
21-30	13	7, 321	311	889	77, 159	2, 341	88. 5	82. 1
31-40	10	7, 653	356	899	84, 812	2, 697	97. 3	94. 6
41 and over	3	2, 369	153	902	87, 181	2, 850	100. 0	100. 0
Total.....	902	1 87, 180	2, 850					

¹ Totals based on unrounded data.

As shown in the table, 41.2 percent of the total employee-hour exposure in logging accounted for only 29.6 percent of the injuries, leaving 70.4 percent of all injuries to be accounted for by the remaining 58.8 percent of exposure. In sawmills, nearly half of the total exposure hours included less than one-third of all injuries. In fact, 51 of the 857 sawmills, with only about one-third of the total exposure, had nearly half of all injuries.

In planing mills, too, much the same distribution occurred. Of a total of 902 establishments, 754, with nearly 48 percent of the total exposure, had under 28 percent of all injuries. Thus, about 72 percent of all injuries occurred in 148 planing mills with 52 percent of the total employee-hours worked.

Causes of Accidents in the Fertilizer Industry ¹

The number of employees in the 361 establishments covered increased from 11,976 in 1936 to 12,559 in 1937, with a corresponding increase in employee-hours worked from 21,086,640 to 23,204,216, a net gain of 4.9 percent in the number of employees and 100 percent in the number of hours worked. These employees had 874 disabling injuries in 1936 and 965 in 1937, an increase of 10.4 percent. With disabling injuries and employee-hours each increasing by about 10 percent, the frequency rate remained practically unchanged. The increase in the severity rate was due largely to the increase in the number of fatalities.

Experience of Departments in Identical Establishments

A survey of the causes of injuries in the fertilizer industry, covering the years 1936 and 1937, was made by the Bureau of Labor Statistics with the endorsement and cooperation of the National Fertilizer Association. The survey yielded tabulatable reports from 361 identical establishments for the 2 years. The injury data were collected according to a scheduled series of injury causes for the plant employees of each type of department. The 4 departments, reflecting the general structure of the industry, are unloading and transportation, dry mixing (i. e., the mixing of dry chemical compounds), acidulating (i. e., the treatment of other chemicals with acid), and acid making. The 361 reporting establishments comprised 528 departments in 1936 and 554 in 1937.

Table 1 shows the general accident experience of the plants covered in 1936 and 1937.

TABLE 1.—*Summary of injury experience for 361 identical establishments in the fertilizer industry, 1936 and 1937*

Item	1936	1937	Percentage of change
Average number of employees ¹	11, 976	12, 559	+4. 9
Total employee-hours worked.....	21, 086, 640	23, 204, 216	+10. 0
Average annual hours per employee.....	1, 761	1, 848	+4. 9
Total number of disabling injuries.....	874	965	+10. 4
Frequency rate.....	41. 45	41. 59	+ . 3
Total days of disability.....	101, 321	134, 891	+33. 1
Severity rate.....	4. 80	5. 81	+21. 0

¹ The average number of employees equals the total number on the pay rolls on the fifteenth of each month of plant operation, divided by the number of months of operation.

Of the total of 874 disabling injuries in 1936, 9 were fatalities, 21 permanent partial disabilities, and 844 temporary total disabilities. In 1937 there were 14 fatalities, 27 permanent partial, and 924 temporary total disabilities. More than one-half of all the injuries listed under specific causes occurred in the handling of tools

¹ Abstract of article prepared by Roy F. Fleming and Jacob Lotven, of the U. S. Bureau of Labor Statistics, in the Monthly Labor Review for April 1939.

or equipment in both 1936 and 1937, with 312 and 366 injuries, respectively. Most of these injuries, however, were of a minor character, as is indicated by the relatively low severity rate of 0.77 in 1936 and 0.50 in 1937. Although the frequency rate for the entire group of plants remained practically unchanged for both years, the number of injuries from specific causes varied. The frequency rate for handling of tools or equipment rose from 14.80 to 15.77, that for falling materials dropped from 4.60 to 3.62, and the rate for acid or chemical burns dropped from 1.80 to 1.08. The changes in the frequency rates of the other injury causes were slight.

The detailed data for the year 1937 are shown in table 2.

TABLE 2.—*Injury experience of 361 identical establishments in the fertilizer industry, by departments and causes of injuries, 1937*

Cause of injury	Number of disabling injuries resulting in—			Total number of disabilities	Duration of disability (days)	Injury frequency rate	Injury severity rate	Average days lost	
	Death	Perma- nent partial disability	Tempo- rary total disability					Perma- nent partial disability	Tempo- rary total disability
All departments (554 departments, 12,559 employees, 23,204,216 ¹ employee-hours)									
All causes.....	14	27	924	965	134, 891	41.59	5.81	1,315	17
Falls.....	5	3	109	117	39,577	5.04	1.71	2,300	25
Falling materials.....	2	6	76	84	26,921	3.62	1.16	2,133	28
Handling of tools or equipment.....		9	357	366	11,636	15.77	.50	733	14
Gassing.....			13	13	282	.56	.01		22
Acid or chemical burns.....	1		24	25	6,291	1.08	.27		12
Machinery.....	4	5	30	39	28,748	1.68	1.24	820	22
Direct burns (heat).....			5	5	125	.22	.01		25
All others.....	2	4	310	316	21,311	13.62	.92	1,275	14
Unloading and transportation (139 departments, 1,809 employees, 3,217,052 employee-hours)									
All causes.....	2	2	177	181	19,704	56.26	6.12	2,150	19
Falls.....			35	35	685	10.88	.21		20
Falling materials.....	1	1	16	18	10,435	5.60	3.24	4,000	27
Handling of tools or equipment.....			68	68	1,116	21.14	.35		16
Gassing.....			2	2	7	.62	(0)		4
Acid or chemical burns.....			2	2	71	.62	.02		36
All others.....	1	1	54	56	7,390	17.41	2.30	300	20
Dry mixing (245 departments, 5,105 employees, 8,287,920 employee-hours)									
All causes.....	5	7	363	375	40,909	45.25	4.94	836	14
Machinery.....	1	2	15	18	7,780	2.17	.94	750	19
Falls.....	2		41	43	13,056	5.19	1.58		26
Falling materials.....	1		28	29	6,646	3.50	.80		23
Handling of tools or equipment.....		3	161	164	3,413	19.79	.41	450	13
All others.....	1	2	118	121	10,014	14.60	1.21	1,500	9

¹ Less than 0.005.

TABLE 2.—*Injury experience of 361 identical establishments in the fertilizer industry, by departments and causes of injuries, 1937—Continued*

Cause of injury	Number of disabling injuries resulting in—			Total number of disabilities	Duration of disability (days)	Injury frequency rate	Injury severity rate	Average days lost	
	Death	Permanently partial disability	Temporarily total disability					Permanently partial disability	Temporarily total disability
Acidulating (51 departments, 748 employees, 1,498,862 employee-hours)									
All causes.....	1	3	55	59	11,686	39.36	7.80	1,500	22
Gassing.....			5	5	32	3.34	.02		6
Acid or chemical burns.....			7	7	88	4.67	.06		13
Machinery.....	1		4	5	6,250	3.34	4.17		63
Falls.....			4	4	85	2.67	.06		21
Falling materials.....		1	5	6	2,611	4.00	1.74	2,400	42
Handling of tools or equipment.....		2	18	20	2,321	13.34	1.55	1,050	12
All others.....			12	12	299	8.01	.20		25
Acid making (23 departments, 570 employees, 1,338,152 employee-hours)									
All causes.....	2	4	48	54	16,252	40.35	12.15	825	20
Gassing.....			4	4	64	2.99	.05		16
Acid or chemical burns.....	1		5	6	6,039	4.48	4.51		8
Direct burns (heat).....			4	4	107	2.99	.08		27
Machinery.....									
Falls.....	1	1	7	9	8,738	6.73	6.53	2,400	48
Falling materials.....		2	7	9	759	6.73	.57	300	23
Handling of tools or equipment.....		1	12	13	442	9.71	.33	300	12
All others.....			9	9	103	6.73	.08		11
Not elsewhere classified (96 departments, 4,327 employees, 8,862,230 employee-hours)									
All causes.....	4	11	281	296	46,340	33.40	5.23	1,595	17
Gassing.....			2	2	179	2.23	.02		90
Acid or chemical burns.....			10	10	93	1.13	.01		9
Direct burns (heat).....			1	1	18	.11	(¹)		18
Machinery.....	2	3	11	16	14,718	1.81	1.66	867	11
Falls.....	2	2	22	26	17,013	2.93	1.92	2,250	23
Falling materials.....		2	20	22	6,470	2.48	.73	2,900	34
Handling of tools or equipment.....		3	98	101	4,344	11.40	.49	950	15
All others.....		1	117	118	3,505	13.31	.40	1,800	15

¹ Less than 0.005.

The injuries caused by falls, falling materials, and machinery accounted for more loss of time from work than any others. Falls had the second highest severity rates in 1936 and the highest in 1937, 0.90 and 1.71, respectively. The number of fatalities listed against this cause increased from two in 1936 to five in 1937, equaling more than one-third of the total number of deaths in the industry for the latter year. Falling materials were the cause of two deaths in 1937 as compared with none in 1936, and of six permanent partial injuries in 1937 as against two in 1936. In 1936 machinery accounted for two fatalities and three permanent partial disabilities, as compared with four fatalities and five permanent partial injuries in 1937.

Injuries due to gassing showed the outstanding reduction in severity in 1937 over 1936, the rate dropping from 1.15 to 0.01. It is

pertinent to note that the four deaths attributed to gassing in 1936 occurred in one plant in a single accident. It would seem, therefore, that the 1937 figure is more indicative of the normal injury experience due to gassing.

The average days lost per disability increased slightly in the temporary total injuries, from 15 days per injury to 17 days. This increase was more than offset by the large reduction in the average days lost per permanent partial injury, the average falling from 1,648 days per case to 1,315 days. Falls and falling materials caused the highest average time lost for both temporary total and permanent partial disabilities in both years.

Geographic Differences

As the number of establishments in most of the States is small, an analysis of the injury data in the fertilizer industry by States would tend to reveal the identity of individual plants. For this reason the States are grouped into three areas in order to discover if any significant differences in injury experience existed in various sections of the United States during 1937.

The areas are designated as follows: Southeastern (Alabama, Arkansas, Delaware, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia); Northeastern (Connecticut, Illinois, Indiana, Maine, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Wisconsin); and Western (Arizona, California, Colorado, Iowa, Kansas, Missouri, Montana, Nevada, Oregon, Texas, and Washington).

TABLE 3.—*Injury rates in the fertilizer industry, by departments, in geographic areas, 1937*

Department	Injury-frequency rate				Injury-severity rate			
	Southeastern States	Northeastern States	Western States	All States	Southeastern States	Northeastern States	Western States	All States
All departments.....	44.23	37.84	24.60	41.45	7.18	2.73	3.29	5.89
Unloading and transportation.....	63.39	35.62	44.25	56.16	8.02	1.04	1.46	6.11
Dry mixing.....	53.94	24.95	19.16	44.85	7.10	.59	.28	5.17
Acidulating.....	43.32	26.51	33.34	39.36	10.61	.36	.55	7.80
Acid making.....	43.05	54.94	7.86	40.35	14.24	.41	.14	12.15
Not elsewhere classified.....	27.22	46.35	36.06	33.40	4.92	4.68	20.29	5.23

With a frequency rate of 44.23 and a severity rate of 7.18, establishments in the Southeastern area experienced more disabling injuries for every million employee-hours worked and lost more days for each thousand employee-hours worked than establishments in either of the other two areas.

The handling of tools or equipment caused the greatest number of disabling injuries in the Southeastern and Northeastern areas, 274 out of a total of 724 (38 percent) in the former, and 86 out of a total of 204 (42 percent) in the latter. Among the specific causes of injuries in both areas, falls were responsible for the second greatest number of disabilities, and falling materials was third. In the Southeastern area falls accounted for 80 injuries, and falling materials for 69 (11

and 10 percent, respectively). In the Northeastern area falls accounted for 28 injuries (14 percent), and falling materials for 13 (6 percent). In the Western area falls caused the greatest number of injuries, 9 out of a total of 38 (24 percent), and the handling of tools or equipment followed with 6 out of 38 (16 percent).



Railway Accidents in the United States, 1930 to 1939 ¹

During 1939, about 38,000 persons were injured and another 4,700 killed in railroad accidents. Measured against train-miles of operation, the injury rate, as indicated in table 1, decreased fairly consistently after 1930, when it stood at 71.25. The downward trend was interrupted in 1936 and 1937, when increases in train-miles operated resulted in proportionately larger increases in injuries. Thereafter, the injury rate decreased to a low of 50.99 in 1938 but rose slightly to 51.19 in 1939. The decrease, however, occurred primarily in the number of nonfatal injuries which dropped from about 71,000 in 1930 to nearly 50,000 in 1931, and thereafter, with few exceptions, declined fairly steadily to 38,000 in 1939. The number of fatalities fluctuated from a high of 5,900 in 1930 to a low of 4,700 in 1939, but with practically no difference in the fatality rates for these 2 years. The fatality rate per million train-miles remained consistently above 6.30 from 1932 through 1937.

TABLE 1.—Casualties in railway accidents, 1930 to 1939 ¹

Year	Train-miles ² (millions)	Number of casualties			Rate per million train-miles		
		Total	Killed	Injured	Total	Killed	Injured
1930	1,082	77,094	5,926	71,168	71.25	5.48	65.77
1931	951	55,128	5,491	49,637	57.96	5.77	52.19
1932	813	44,852	5,137	39,715	55.17	6.32	48.85
1933	779	42,313	5,434	36,879	54.32	6.98	47.34
1934	808	44,210	5,281	38,929	54.72	6.54	48.18
1935	818	43,387	5,527	37,860	53.04	6.76	46.28
1936	891	54,135	5,862	48,273	60.76	6.58	54.18
1937	918	57,035	5,784	51,251	62.13	6.30	55.83
1938	817	41,659	4,879	36,780	50.99	5.97	45.02
1939	843	43,156	4,699	38,457	51.19	5.57	45.62

¹ Computed from Interstate Commerce Commission Accident Bulletin No. 107 and unpublished 1939 data. The data given here have been adjusted by shifting into the fatality column all injuries which resulted in death later than 24 hours after the accident.

² Transportation service, class I railways, excluding switching and terminal companies.

Injuries to Railroad Employees

Whereas the majority of fatal injuries involving primarily persons other than railroad employees, the nonfatal injuries involved primarily such employees. The 565 fatalities to employees during 1939

¹ From the Monthly Labor Review for November 1940. Basic data are from reports of the Interstate Commerce Commission.

were only 12 percent of the year's fatality total, but the 27,563 nonfatal injuries to employees were almost 72 percent of the total for this type of casualty. In terms of frequency rates (i. e., the average number of injuries per million employee-hours of exposure), the 1939 rate of 11.67 was the lowest during the 10-year period. From 1930 to 1935, the frequency rate dropped fairly steadily—from 16.06 in 1930 to 11.78 in 1935. Coincident with an exposure increase from 2,300 million hours in 1935 to 2,586 million in 1936—with which went an increase in train-miles from 818 million to 891 million—the frequency rate increased from 11.78 to 14.14.

As is apparent from table 2, the frequency rate of deaths to employees ranged between 0.23 in 1939 and 0.30 in 1936, but without any discernible trend until 1936, after which date the rate dropped year after year.

TABLE 2.—*Injuries to railroad employees on duty, 1930 to 1939*¹

Year	Em- ployee- hours ² (millions)	Number of injuries				Frequency rate		
		Total	Death	Disabili- ty of over 3 days	Disabili- ty of 3 days or less ³	Total	Death	Nonfatal
1930.....	3,641	58,460	1,011	35,249	22,200	16.06	0.28	15.78
1931.....	2,931	37,998	708	22,890	14,400	12.96	.24	12.72
1932.....	2,287	28,871	625	17,346	10,900	12.62	.27	12.35
1933.....	2,149	25,883	571	15,512	9,800	12.04	.27	11.77
1934.....	2,301	28,216	593	16,923	10,700	12.26	.26	12.00
1935.....	2,300	27,103	638	16,265	10,200	11.78	.28	11.50
1936.....	2,586	36,571	768	21,772	14,031	14.14	.30	13.84
1937.....	2,717	39,288	753	23,542	14,993	14.46	.28	14.18
1938.....	2,255	26,549	549	16,093	9,907	11.77	.24	11.53
1939.....	2,411	28,128	565	16,888	10,675	11.67	.23	11.44

¹ Computed from Interstate Commerce Commission Accident Bulletin No. 107 and unpublished 1939 data.

² Class I railways.

³ Data prior to 1936 estimated. Total figures include estimate.

Until 1936 railroads were not required to report injuries which resulted in disabilities of less than 4 days' duration. Reports covering such injuries since then indicate that these injuries were about 63 percent as numerous as the disabilities of longer duration. Estimates were made for the years prior to 1936 by the application of this ratio.

Reports from railroads clearly show that it is possible for workers to lose no time from work, even though they have suffered some permanent impairment. In 1938, during which 26,549 injuries disabling beyond the day of injury were reported, there were 2,007 cases which involved either fracture or some permanent impairment but no loss of time. Most of these, 1,463, were fractures. Eighty were amputations, 198 permanent injuries to eyes, 145 permanently affected other parts of the body, and 121 more required the use of splints or crutches. No 1939 data were available at the time the article was prepared. These injuries are not included in the other tabulations given here.

Injuries to Trespassers

Trespassers sustained the largest proportion of fatalities. Of the 4,699 persons killed in railroad accidents in 1939, 2,364, or over 50 percent, were trespassers. Further, the number of trespassers injured during that year, 1,813, was less than the number killed.

For every 3 million locomotive-miles operated during 1939, 10 trespassers were killed or injured. The rate per million miles, 3.37, was the lowest since 1930 (when it was 3.30) and was substantially below the rate of 4.01 for 1938.

TABLE 3.—Casualties to trespassers on railroad property, 1930 to 1939 ¹

Year	Locomotive miles ² (millions)	Casualties			Rate per million locomotive-miles		
		Total	Killed	Injured	Total	Killed	Injured
1930.....	1,591	5,252	2,451	2,801	3.30	1.54	1.76
1931.....	1,360	5,715	2,572	3,143	4.20	1.89	2.31
1932.....	1,131	6,286	2,672	3,614	5.56	2.36	3.20
1933.....	1,107	6,823	3,025	3,798	6.16	2.73	3.43
1934.....	1,156	5,810	2,840	2,970	5.03	2.46	2.57
1935.....	1,182	5,742	2,877	2,865	4.85	2.43	2.42
1936.....	1,321	5,432	2,882	2,550	4.11	2.18	1.93
1937.....	1,369	5,198	2,737	2,471	3.80	1.99	1.81
1938.....	1,178	4,727	2,428	2,299	4.01	2.06	1.95
1939.....	1,241	4,177	2,364	1,813	3.37	1.91	1.46

¹ Computed from Interstate Commerce Commission Accident Bulletin No. 107 and unpublished 1939 data.

² Includes motor-train miles.

Most of the trespasser casualties involved adults. Only about 13 percent of the persons injured were children or minors under 21. The fatality figure for 1939 includes 493 deaths of "hoboes and tramps." About 60 percent of the deaths were due to trespassers being struck or run over at places other than public crossings. Getting on or off cars or locomotives, while playing a minor role in accidents resulting in death, was the most prominent cause of nonfatal injuries, accounting for about one-third.

Injuries to Passengers

Injuries to passengers during 1939 were relatively few. Forty-six passengers, on trains or lawfully on the premises of the carriers, were killed and 3,314 injured. About one-quarter of the 1939 fatalities were caused by train derailments, and another 17 percent by falls while getting on or off cars. As apparent from table 4, the 1938 rate of 4.1 passenger fatalities per billion passenger-miles that year was the highest after 1930. The rate of 2.0 for 1939, although less than half the 1938 rate, nevertheless was higher than any rate since 1934 exclusive of 1938. On the other hand, the nonfatal injury rate for 1939, 146.0, was the highest experienced during the 10-year period after 1930, with the single exception of 1933, for which the rate was 153.1.

More than one-quarter of the nonfatal passenger injuries were incurred while getting on or off cars.

TABLE 4.—*Injuries to railroad passengers, 1930 to 1939*¹

Year	Passenger-miles (billions)	Number of casualties			Rate per billion passenger-miles		
		Total	Killed	Injured	Total	Killed	Injured
1930.....	26.9	3,213	56	3,157	119.4	2.1	117.3
1931.....	21.9	2,710	41	2,669	123.7	1.9	121.8
1932.....	17.0	2,380	36	2,344	140.0	2.1	137.9
1933.....	16.4	2,572	60	2,512	156.8	3.7	153.1
1934.....	18.1	2,593	50	2,543	143.3	2.8	140.5
1935.....	18.5	2,543	33	2,510	137.5	1.8	135.7
1936.....	22.5	3,273	43	3,230	145.5	1.9	143.6
1937.....	24.7	3,324	36	3,288	134.6	1.5	133.1
1938.....	21.7	3,086	88	2,998	142.2	4.1	138.1
1939.....	22.7	3,360	46	3,314	148.0	2.0	146.0

¹ Computed from Interstate Commerce Commission Accident Bulletin No. 107 and unpublished data.

Rail-Highway Grade-Crossing Accidents

Almost nine-tenths of all grade-crossing accidents in 1939 involved automobiles. In the 3,476 collisions with motor vehicles during the year 1,398 persons were killed and 3,999 injured. The number of fatalities during 1939 was lower than that for any year subsequent to 1930. Similarly, the accident rate of 4.12 per million train-miles was the lowest during the 10-year period.

As in the earlier years, the late fall and early winter months were the periods of most frequent motor-vehicle-train collisions in 1939. Thirty-five percent of these accidents occurred during the 3 months, October to December, and another 11 percent took place in January. About one-third of all grade-crossing accidents occurred at crossings protected by lowered gates, watchmen, trainmen, or other visible or audible signs.

It is interesting to note that in nearly half of the collisions involving freight trains, the trains were moving at speeds of less than 20 miles per hour, and that in 10 percent the trains were standing still.

Weather appears to have been a minor factor in these collisions during 1939. In 67 percent of the crossing accidents the weather was reported as clear. In only about 6 percent of collisions had the motor vehicles stalled on the tracks, and in only 4 percent was the vehicle speed in excess of 60 miles per hour. In nearly 25 percent of the accidents the vehicle speed was between 10 and 19 miles per hour, and in another 21 percent between 20 and 29 miles per hour. In only 15 percent of the cases were automotive vehicles reported as traveling over 40 miles per hour.



Industrial Injuries in Mining and Quarrying, 1930 to 1939¹

During 1939 about 1,300 workers were killed and 77,000 injured nonfatally in the mining industries of the United States. Fully 80 percent of all fatalities and nearly 75 percent of all nonfatal injuries

¹ From the Monthly Labor Review for December 1940. Basic data are from reports of the U. S. Bureau of Mines.

occurred in coal mining, which also accounted for 72 percent of the employment and nearly 63 percent of the employee-hours of exposure. Expressed in frequency rates, coal mining had 85.1 disabling injuries per million employee-hours worked, and mining other than coal, 69.8. Of the latter class of mines, metal mining experienced a rate of 72.8, and nonmetal mines a rate of only 38.7. Even the low rate in the nonmetal mines, however, is substantially above the rates for most manufacturing industries.

Coal Mining

As is apparent from table 1, there has been a fairly steady decrease in the accident-frequency rate in coal mining from 1930, when the rate stood at 105.6, to 1939, when it was 85.1. Most of this decrease, however, occurred in the nonfatal injuries. There was little change in the fatality rate after 1930.

The mining of anthracite has been consistently more hazardous than the mining of bituminous coal. Against a frequency rate of 75.8 in 1939 for bituminous mining, anthracite mining had a rate of 127.3—almost two-thirds again as high. With the exception of 1938, the 1939 rate for bituminous coal was the lowest since 1930. But the anthracite rate of 127.3 for 1939, almost the same as for 1938, exceeded that of any other year since 1931 when it stood at 128.4. Data for 1938 indicate that disabling injuries occurred about twice as frequently (i. e. per million employee-hours worked) in underground mining as in open-cut mining, and nearly three times as frequently as in dredge and surface mining.

TABLE 1.—Frequency rates for disabling injuries in coal mining, 1930–39¹

Year	Total			Bituminous coal			Pennsylvania anthracite		
	All injuries	Fatal	Non-fatal	All injuries	Fatal	Non-fatal	All injuries	Fatal	Non-fatal
1930.....	105.6	2.1	103.5	97.1	2.2	94.9	130.9	1.8	129.1
1931.....	101.7	1.8	99.9	92.4	1.8	90.6	128.4	1.8	126.6
1932.....	94.6	1.9	92.7	84.1	2.0	82.1	126.6	1.6	125.0
1933.....	86.7	1.5	85.2	79.3	1.5	77.8	113.7	1.5	112.2
1934.....	90.0	1.6	88.4	81.1	1.6	79.5	119.4	1.5	117.9
1935.....	91.2	1.7	89.5	83.8	1.7	82.1	118.9	1.8	117.1
1936.....	85.8	1.6	84.2	77.0	1.6	75.4	123.4	1.6	121.8
1937.....	85.8	1.7	84.1	80.0	1.8	78.2	115.2	1.6	113.6
1938.....	84.4	1.8	82.6	74.5	1.7	72.8	127.2	1.9	125.3
1939 ²	85.1	1.6	83.5	75.8	1.6	74.2	127.3	1.7	125.6

¹ Computed from U. S. Bureau of Mines data.

² Preliminary figures.

Of the 1,153 fatalities and permanent total disabilities, 922 occurred in bituminous-coal and 231 in anthracite mining. In the group of permanent partial disabilities, however, anthracite accounted for only 84 and bituminous coal for 1,476. Expressed in terms of disability ratios, bituminous-coal mining had 24 fatalities or permanent total disabilities per 1,000 injuries as against 16 for anthracite mining; but it had 39 permanent partial disabilities for only 6 in anthracite mining.

The predominant cause of fatalities in 1938 was falls of roofs, accounting for fully half of all deaths. Mine cars and locomotives,

however, were the leading cause of nonfatal injuries (20 percent). Falls of face or rib, hand tools, and machinery also produced a considerable proportion of the nonfatal injuries.

Mining Other Than Coal

Mining other than coal accounted in 1939 for about 70 disabling injuries per million hours worked. This represents about the same experience as in 1938, but a considerable reduction from the rates of 76 and 73 for 1937 and 1936, respectively. The 1939 rate is considerably above those for 1931 and 1932, however. As in the case of coal mining, there is no discernible trend in the frequency of fatal injuries. The nonfatal injury frequency rate increased fairly steadily from 1931 to 1937, at which time it had increased by nearly a third. Since then, as already indicated, it has dropped somewhat.

TABLE 2.—Frequency rates for disabling injuries in mining other than coal, 1931-39¹

Year	Total			Metal			Nonmetal		
	All injuries	Fatal	Non-fatal	All injuries	Fatal	Non-fatal	All injuries	Fatal	Non-fatal
1931.....	56.8	1.0	55.8	58.0	1.1	56.9	47.5	0.6	46.9
1932.....	55.7	1.2	54.5	57.1	1.2	55.9	45.3	.6	44.7
1933.....	63.9	1.0	62.9	65.8	1.1	64.7	53.3	.6	52.7
1934.....	69.0	1.0	68.0	71.5	1.1	70.4	52.3	.5	51.8
1935.....	64.3	1.0	63.3	65.8	1.1	64.7	50.7	.4	50.3
1936.....	73.4	1.0	72.4	76.4	1.1	75.3	48.6	.2	48.4
1937.....	76.3	.9	75.4	78.8	.9	77.9	48.7	.6	48.1
1938.....	68.4	.8	67.6	71.3	.9	70.4	41.0	.3	40.7
1939 ²	69.8	.9	68.9	72.8	.9	71.9	38.7	.7	38.0

¹ Computed from U. S. Bureau of Mines data.

² Preliminary figures.

As is apparent from table 2, the experience of metal mines became worse after 1931, whereas that for nonmetal mines improved. The lowest frequency rates for metal mines were 58.0 and 57.1 in 1931 and 1932.

On the other hand, the 1939 frequency rate of 38.7 for nonmetal mining was the lowest since 1931 (when it stood at 47.5) and considerably below the maximum rate of 53.3 in 1933. The movement of rates for successive years after 1933 was persistently downward.

Lode mines producing gold and silver had the highest frequency rate in 1938—110.7. Gold placer mines had a rate of only 29.3. Copper mines had a rate of 61.3 and lead and zinc mines 58.8. The lowest rate in the group, 16.7, was for iron mines.

Of the 121 fatalities occurring underground in mines other than coal during 1938, about half were caused by rock or ore falling from roof or wall. This same cause was also responsible for more than a quarter of all permanent impairments and about 20 percent of all temporary disabilities. Haulage ranked second as a fatality cause, with 44 deaths, and was also one of the outstanding causes of temporary disabilities. Another operation involving a considerable number of injuries was drilling. The frequency rate for underground operations, 93, was more than three times as high as the rates for open-cut and surface mining, which were 32 and 31, respectively.

Quarries

The frequency rate for disabling injuries in quarry operations did not change appreciably during the period from 1931 to 1939. The rate for 1939 of 37.0 was somewhat lower than that of 38.2 for 1938, but the 1938 rate, in turn, was about the same as the rates for 1935 and 1932.

TABLE 3.—*Frequency rates for disabling injuries in quarries, 1931-39*¹

Year	Total	Fatal	Nonfatal
1931.....	41.1	0.5	40.6
1932.....	38.4	.3	38.1
1933.....	42.1	.7	41.4
1934.....	41.8	.6	41.2
1935.....	38.2	.5	37.7
1936.....	39.5	.6	38.9
1937.....	40.6	.5	40.1
1938.....	38.2	.6	37.6
1939 ²	37.0	.3	36.7

¹ Computed from U. S. Bureau of Mines data.

² Preliminary figures.

The fatality frequency rate varied from 0.3 in 1939 and 1932 to 0.7 in 1933. It shows no definite trend, nor does the nonfatality frequency rate, which varied from 36.7 in 1939 to 41.4 in 1933.

Most hazardous in 1937, as indicated by a frequency rate of over 75, was the quarrying of sandstone and trap rock. Nearly on the same level were the frequency rates for the quarrying of granite, limestone, marble, and slate, with rates ranging from about 51 to 57.

Federal Mine-Inspection Act of 1941¹

Early in 1941 Congress passed a law (Public, No. 49, 77th Cong.), the purpose of which was to safeguard the lives and health of persons employed in coal mines. The legislation authorizes the Federal Government, through the Bureau of Mines of the Interior Department, to investigate safety and health conditions in coal mines, the products of which regularly enter commerce, and to make any necessary recommendations.

Basically, the broad purpose of the legislation is to obtain information relating to (1) health and safety conditions in coal mines; (2) causes of accidents involving bodily injury or loss of life; and (3) causes of occupational diseases originating in such mines. The information will serve as a basis for determining the most effective manner in which public funds may be used in safety and accident-prevention work, and for the dissemination of reports, studies, statistics, and other educational materials pertaining to such work. Such data will be

¹ From Monthly Labor Review for May 1941.

used in the preparation of various census reports and also will be transmitted to Congress for use in connection with any required safety legislation.

Although mine operators are obliged under penalty of law to permit representatives of the Government to have access to the mines, the new legislation provides no authority or power for enforcement of any of their recommendations. The legislation requires that inspection of the mines by Federal agencies shall be in cooperation with State mine-inspection agencies. Sponsors of the legislation in Congress pointed out that the law would not prevent accidents nor guarantee the elimination of mine explosions, but with the aid of officials experienced in mine-safety work information would be made available for the purpose of lessening or abolishing the hazards of coal mining.

Further, it was the general opinion of the legislators that the proposed law could not be considered a challenge to mine owners or State mining officials. It was considered, instead, an offer of aid to employers, employees, and State officers—an offer “of all the knowledge that our Federal mining experts may have.”

Hereafter, the owner of a mine, the products of which regularly enter commerce or the operations of which substantially affect commerce, must furnish to the Bureau of Mines, upon request, complete and correct data concerning all accidents involving bodily injury or loss of life which occurred during the calendar year in which the request is made or during the preceding calendar year.

The act further requires that detailed reports of information must be compiled and made available to Congress and distributed generally. Authority has been granted for the establishment of an advisory committee composed of six members or less, to exercise “consultative functions.” On this committee coal-mine owners and workers are to have equal representation. The members of the advisory committee may be appointed without regard to the civil-service laws. However, all other persons appointed to administer the act must be subject to the Classification Act, and persons appointed as coal-mine inspectors must have had 5 years’ practical experience in the mining of coal, and be recognized by the United States Bureau of Mines as having the training or experience of practical mining engineers in the essentials necessary for competent coal-mine inspection.



Accident Experience of Federal Civilian Employees; 1921 to 1935 ¹

The data given in table 1 show accident frequencies for civilian employees in the various Federal departments combined from 1921 to 1935 inclusive.

¹From the Monthly Labor Review for August 1936. Data were compiled from accidents reported to the U. S. Employees’ Compensation Commission, and from data of man-hours worked obtained from the individual Federal departments. Where man-hour data were not available they were estimated from average employment and average hours of work, eliminating annual and sick leave. The Civilian Conservation Corps and all but the administrative personnel of the various emergency administrations have been excluded.

TABLE 1.—*Number of injuries and injury frequency rates in Federal civilian service, 1921 to 1935, all departments, by years*

Year	Average number of employees	Man-hours worked (thousands)	Number of injuries			Frequency rates (per 1,000,000 hours' exposure)		
			Fatal	Non-fatal ¹	Total	Fatal injuries	Non-fatal injuries ¹	Total
1921	567,757	1,214,844	344	18,046	18,390	0.28	14.85	15.13
1922	542,562	1,166,325	349	17,910	18,259	.30	15.36	15.66
1923	543,404	1,179,199	265	17,727	17,992	.22	15.03	15.25
1924	555,265	1,195,396	268	20,270	20,538	.22	16.96	17.18
1925	565,323	1,230,075	305	20,386	20,691	.25	16.57	16.82
1926	568,990	1,237,994	263	19,264	19,527	.21	15.56	15.77
1927	574,751	1,232,200	358	20,189	20,547	.29	16.38	16.67
1928	587,017	1,256,817	307	21,882	22,189	.24	17.41	17.65
1929	601,150	1,286,279	334	25,356	25,690	.26	19.71	19.97
1930	598,644	1,281,153	292	25,777	26,069	.23	20.12	20.35
1931	611,729	1,257,926	262	28,176	28,438	.21	22.40	22.61
1932	583,427	1,189,176	231	25,117	25,348	.19	21.12	21.31
1933	602,186	1,209,818	230	24,755	24,985	.19	20.46	20.65
1934	684,524	1,368,514	287	33,839	34,126	.21	24.73	24.94
1935	768,165	1,535,987	307	32,832	33,139	.20	21.38	21.58

¹ Includes medical cases other than first-aid treatments.

Table 2 gives the frequency rates of injuries involving lost time or requiring more than first aid, for various Federal departments, for each year beginning with 1921. The Department of Agriculture started with a frequency rate of 16.03 in 1921, and reached a high of 71.91 in 1931. By 1933, the rate had dropped to 46.25, only to rise to 69.15 in 1934. During 1935, however, the rate was nearly cut in half, dropping to 38.17. The Department of Commerce shows a fairly constant upward trend, reaching a high point of 19.35 in 1935. The Department of the Interior reached a frequency rate of 38.04 in 1931, but since then has experienced a reduction each year to 33.44 in 1935. The Department of Labor, on the other hand, starting with a frequency rate of 15.93 in 1921, has enjoyed a fairly steady decrease to an all-time low (since 1921) of 6.11 in 1935. Similarly, the Department of the Navy shows an all-time low rate of 8.47 in 1935. The Post Office Department, on the other hand, had an all-time high of 18.95 in 1935. The Department of State, which until 1933 had a lower frequency rate than any other department listed, suddenly reached frequency rates of 21.14 and 21.01 in 1934 and 1935 respectively, the large increases in accidents occurring primarily in the International Boundary Commission, which experienced large increases in employment during these years. The Department of the Treasury and the District of Columbia Government also show increasing trends, the former reaching, in 1935, an all-time high of 14.57. The 1934 and 1935 rates of 29.31 and 28.50 for the District of Columbia Government are not much below the high mark of 34.33 in 1932, but do show a tendency to decline. The Department of War reached the very high rate of 72.63 in 1932. Alarmed by this unusual experience, the Department in 1933 initiated a safety program under the supervision of a safety department in the United States

Engineer Department, which had jurisdiction of more than half of the total employees in the Department of War. As a result of these activities, the frequency rates dropped successively to 59.62 in 1933, 57.36 in 1934, and 45.69 in 1935.

TABLE 2.—*Injury frequency rates in Federal civilian service, 1921 to 1935, by department and year*¹

Department	1921	1922	1923	1924	1925	1926	1927	1928
All Government services.....	15.13	15.66	15.25	17.18	16.82	15.77	16.67	17.65
Department of Agriculture.....	16.03	21.77	22.77	29.73	30.29	37.63	38.50	40.67
Department of Commerce.....	9.89	11.94	14.10	12.95	11.50	14.25	13.48	12.51
Government Printing Office.....	9.46	7.07	4.91	4.87	3.14	4.45	4.67	3.94
Department of the Interior.....	23.49	28.46	39.28	48.75	27.35	16.09	21.67	24.99
Department of Labor.....	15.93	14.46	15.57	15.35	16.45	12.17	10.02	12.41
Department of the Navy.....	23.70	17.66	17.54	21.57	19.14	20.46	19.44	20.29
Post Office Department.....	8.40	9.87	9.95	11.07	11.10	11.60	13.01	13.42
Department of State.....	(2)	(2)	.23	.43	.86	1.19	.75	1.80
Department of the Treasury.....	9.06	11.58	9.32	10.13	10.52	8.99	10.19	10.87
Department of War.....	56.17	59.02	53.70	56.72	73.03	53.38	55.23	52.85
District of Columbia Government.....	9.16	10.34	11.41	15.38	18.49	17.48	19.62	23.72
Other Government services.....	6.30	8.22	9.46	11.03	10.44	7.64	7.37	8.16

Department	1929	1930	1931	1932	1933	1934	1935
All Government services.....	19.97	20.35	22.61	21.31	20.65	24.94	21.58
Department of Agriculture.....	65.42	50.83	71.91	61.41	46.25	69.15	33.17
Department of Commerce.....	13.99	11.12	15.77	14.01	14.75	16.32	19.35
Government Printing Office.....	4.62	4.96	3.34	3.67	4.04	4.23	4.69
Department of the Interior.....	28.54	32.07	38.04	36.74	30.79	35.73	33.44
Department of Labor.....	13.35	11.23	11.45	12.41	11.52	9.01	6.11
Department of the Navy.....	20.86	18.59	17.33	12.40	10.82	10.65	8.47
Post Office Department.....	13.87	14.24	14.69	13.40	14.12	16.99	18.95
Department of State.....	2.73	1.90	.78	1.22	1.77	21.14	21.01
Department of the Treasury.....	12.10	11.04	12.06	11.43	12.96	12.91	14.57
Department of War.....	62.13	66.62	71.96	72.63	59.62	57.36	45.69
District of Columbia Government.....	28.08	28.60	29.38	34.33	31.85	29.31	28.50
Other Government services.....	7.71	13.63	14.16	14.61	11.44	13.35	11.64

¹ Includes medical cases other than first-aid treatments.

² Not available.

Effectiveness of Safety Work

Three good illustrations of the effectiveness of safety work are shown in table 3. The data cover the civilian employees in the Government Printing Office, the shore establishments of the Department of the Navy, and the United States Engineer Department of the Department of War. In each case safety activities have been carried on during the years indicated, in case of the shore establishments going back as far as 1921, and in the Government Printing Office to a still earlier date.

The frequency rates given here exclude "medical only" cases. In the case of the shore establishments of the Department of the Navy the day of the injury is counted as the first day of disability.

TABLE 3.—*Injury frequency and severity rates in specified Government agencies*

Federal department	Year	Average number of employees	Man-hours worked (thousands)	Number of lost-time injuries	Days lost ¹	Frequency rate	Severity rate	
Government Printing Office.....	1928	4, 122	8, 890	31	1, 407	3.49	0.16	
	1929	4, 298	9, 097	34	1, 396	3.74	.15	
	1930	4, 624	9, 667	238	13, 355	3.93	1.38	
	1931	4, 969	10, 489	33	1, 437	3.15	.14	
	1932	4, 897	10, 062	23	8, 595	2.29	.85	
	1933	4, 561	9, 413	28	2, 737	2.97	.29	
	1934	4, 961	8, 984	29	1, 630	3.23	.18	
	1935	5, 346	11, 525	33	1, 255	2.86	.11	
	Shore establishments of Navy Department....	1926	30, 500	65, 606	1, 333	137, 276	20.32	2.09
		1927	30, 300	64, 939	1, 337	96, 586	20.50	1.49
1928		32, 188	68, 434	1, 318	74, 874	19.26	1.09	
1929		42, 664	85, 047	1, 656	109, 117	19.47	1.28	
1930		41, 263	87, 907	1, 446	115, 418	16.45	1.31	
1931		40, 762	84, 990	1, 276	109, 615	15.01	1.29	
1932		40, 227	78, 065	820	109, 481	10.50	1.40	
1933		40, 220	78, 134	575	69, 629	7.36	.89	
1934		47, 767	88, 477	736	100, 008	8.32	1.13	
1935		52, 438	96, 216	497	59, 969	5.17	.62	
United States Engineer Department of War Department.....	1933	40, 220	29, 664	1, 273	153, 942	42.91	5.19	
	1934	47, 767	69, 039	1, 812	270, 960	26.24	3.92	
	1935	52, 438	79, 229	1, 413	249, 477	17.84	3.15	

¹ Includes standard estimates for permanent injuries. Includes also, for the Department of the Navy, the day on which the injury occurred.

² Includes 1 fatality and 1 permanent total disability totaling 12,000 days lost.

³ July 1 to December 1931.



Relation of Age to Industrial Injuries¹

During the last 20 years workers have repeatedly voiced their objections to discrimination against older workers in management's hiring policies. One of the reasons cited in justification for this policy is that the older worker is more of an accident risk than is the younger worker. In substantiation, it has been contended, first, that the physiological changes which accompany age decrease the speed of the older worker's reaction to danger, thus increasing his chances of getting hurt; and second, that once injured, his chances of recovery without permanent impairment are less, and that his period of recovery is longer than for the younger worker.

The article here summarized is an attempt to evaluate these contentions. It shows that older workers were injured less frequently than younger workers; but once injured, they experienced proportionately more deaths and permanent impairments than did younger workers. Similarly, their healing periods in temporary disability were, on the average, longer.

The available surveys in this field are analyzed in detail later in the article. Their principal findings are summarized here.

Four plants—two of them public utilities, one a light manufacturing, and another a heavy manufacturing company—had during 1937 a working force of about 26,000. In terms of frequency rates—i. e., the average number of disabling injuries per million hours worked—workers between 40 and 54 years of age had rates only about two-thirds as high as workers under 21, and 70 percent as high as workers

¹ Abstract of an article by Max D. Kossoris, in the Monthly Labor Review, October 1940.

between 21 and 29. The rates for the 40-54 year group were about on a level with those for workers between 30 and 39. The rate for workers of 60 and over was lower than that for workers under 21, and about the same as for those between 21 and 29 years of age.

The same trend is shown by an analysis of about 350,000 industrial injuries reported to the Wisconsin Industrial Commission during the period 1919-38. It revealed that the percentage of injuries in the upper age groups was, as a rule, somewhat lower than the percentage of gainful workers in those age groups.

The Swiss experience, covering about 95,500 injuries during the period 1930-34, showed that for every 1,000 man-years of exposure to the hazard of industrial injury, older workers consistently had fewer injuries than younger workers. The frequencies of injuries per 1,000 man-years for workers between 40 and 49 were less than three-fourths of those for workers between 20 and 34. Of particular interest is the fact that the injury frequency for workers of 60 or more years of age was less than half that for the ages 20 to 29.

The Austrian experience quoted by the International Labor Office in its study, *Discrimination Against Elderly Workers*, also pointed to the same conclusion. The accident frequency reached its maximum for workers between the ages of 20 and 30, and thereafter fell steadily with advancing age. At 50, it was only two-thirds of the maximum, and at age 60, less than one-half. Although these decreases are much greater than those indicated by the available United States data, and probably explainable by differences in industries and occupations, they point in the same direction: injuries occurred proportionately less frequently to the older than to the younger workers.

Once injured, however, the older workers did not fare so well as the younger workers. The proportion of injuries which resulted in death or permanent impairment was considerably higher in the upper age groups.

The nearly 350,000 industrial injuries reported to the Wisconsin Industrial Commission contained 3,337 deaths. For every 1,000 injuries reported, workers between the ages 21 and 25 had an average of about 6 deaths. For the age group 31 to 36, this number rose to 10; for ages 41 to 45, it remained at about 10; for ages 51 to 55, the rate increased to 12; for ages 61 to 65, to 17; and for ages 71 and over, to 36. Thus, workers in the forties had no worse a death-rate experience than those in the thirties. It was above 50 that the difference became marked. In this age group, the death rate was nearly twice that for workers in their twenties, and about 25 percent higher than for persons in the thirties and forties. The rate for workers in the sixties, in turn, was nearly one-quarter above that for workers in the fifties, and about three-quarters again as high as for those in the thirties and forties.

The New York experience, with about 346,000 cases, showed the same trend. Workers in the 20 to 29 age group had about 7 deaths out of every 1,000 injuries reported; for workers between 30 and 39, the rate was 9; for 40 to 49, it rose to 12. From age 50 onward, the rate rose more steeply. The average of 19 deaths per 1,000 injuries for ages 50 to 59 was nearly half again as high as that for workers in the forties. The rate of 33 for workers in their sixties, in turn, was nearly twice as high as for workers in the fifties, two-and-

one-half times as high as for workers in the forties, and five times as high as for those in the twenties.

Although the New York and Wisconsin figures are not directly comparable for a number of reasons, they both emphasize, however, the high proportion of injuries resulting in death in the upper age groups. The New York data indicate further that the fatality experience of female workers, although less pronounced than that for male workers, is nevertheless in complete agreement.

The Swiss experience likewise showed a frequency of death per 1,000 accidents that was twice as high for workers between 40 and 50 as for those under 30, and about half again as high as for those in their thirties. Workers in the fifties experienced proportionately twice as many deaths as persons in the thirties, and about half again as many as those in the forties. Above 60, and especially above 70, the frequency of death rose still more abruptly.

For permanent impairments the differences are less pronounced, but are still clearly discernible. In the Wisconsin experience, workers above 50 had about 13 percent more permanent impairments per 1,000 injuries than workers of 50 or less. Workers between the ages of 51 and 60 had an average of 98 such injuries as against 82 for the 21- to 30-year group.

In the New York cases, workers in the forties had nearly one-third again as many permanent impairments as had workers in the twenties. Workers in the fifties had proportionately 50 percent more impairments than workers in the twenties. And for workers above 50 years of age, the permanent-injury rate was about one-quarter higher than for workers under 50.

Similarly, when the older worker fully recovers from an injury, it takes him, on the average, longer to do so. For the 4 companies cited, the average healing period for workers between 40 and 44 was 30 days, as against 23 days for workers between 21 and 24 years of age. For ages 55 and over, the healing period averaged 34 days.

Wisconsin data, covering the years 1927-28, showed an average of 21 days for temporarily disabled workers between ages 23 to 27, 28 days for ages 53 to 57, and 30 days for ages 63 to 67.

The same trend was followed in the Swiss experience, in which the healing period averaged 20 days for workers between 20 and 30 years of age, 30 days for workers of age 50, and 34 days for age 65.

The data on which these findings are based included nearly a million cases of disabling industrial injuries. This volume is sufficiently large to warrant the reasonableness of the conclusions. However, the conclusions are not to be interpreted as justification for discriminating against the hiring of the older worker on the ground that he is a more *costly* accident risk. The relative cost of less frequent injuries of greater severity to older workers and of more frequent injuries of lesser severity to younger workers still needs to be determined.

Limitations of Statistical Data

The data bearing on the problem of the relation of age to industrial injury are scattered and far from adequate. Nevertheless, they do point to several definite conclusions; although, before entering into a discussion of these and the supporting material, it is pertinent to call attention to several considerations which, because of paucity of

statistical information, must be treated qualitatively rather than statistically.

Foremost in the deficiencies of available information is the lack of adequate exposure data. For any specified number of persons within a given age group who were reported to have been disabled through industrial injuries, how many were exposed to the hazard of being injured at their jobs? In the United States, for large geographic entities such as States, the statistics available are those compiled decennially by the census in the population count. Age distributions are shown separately for gainful workers, but include both employed and unemployed. On the other hand, industrial injuries reported to State agencies, such as workmen's compensation boards, in practice never cover all gainful workers. There are usually omissions in coverage extending to specified industries, certain types of employment, or establishments with a specified minimum number of employees. Again, in a considerable number of States, injuries resulting in disability not exceeding a specified "waiting period" are not required to be reported. And, in a number of States which by law require the reporting of these "waiting period cases," the actual reporting of them is not strongly enforced and at times is actually discouraged.

Equally important is the absence of occupational data. If an adequate comparison is to be made for various age groups, it is desirable that these comparisons be made between workers in the same or similar occupations. Such occupational exposure and injury data, however, are practically nonexistent. At the same time, however, it must be pointed out that such data, even if they were available, would be subject to severe limitations. A considerable number of occupations require a degree of skill which only a protracted training period can develop. The same is true of hazardous occupations requiring considerable experience and maturity of judgment. Consequently, younger workers are automatically excluded from such occupations. On the other hand, the pace set by machines often bars from a number of occupations older workers who have not the required speed—either of action or reaction—and the necessary endurance. Similarly, a large number of manual occupations require an amount of physical strength not usually possessed by older workers.² Such jobs, in addition to being more arduous, are frequently also hazardous.

Further, the same occupational designation often covers types of work and accident hazards which differ greatly from industry to industry, and often between establishments in the same industry. A machinist whose function it is to keep power sewing machines in good repair is under an accident hazard quite different from one who has to repair heavy machinery. Further, variations in working conditions provide entirely different accident hazards even if the occupation is exactly the same.

These generalizations, of course, hold good only for workers as a mass. There is no question but that the physiological changes involved in the aging process—the atrophy of tissues, stiffening of liga-

² The International Labor Office report, *Discrimination Against Elderly Workers* (London, 1938), cites the results of tests for functional efficiency, reported by E. Weiss in *Psychotechnik*, 1937, *Leistung und Lebensalter*. The tests, conducted on unskilled workers, streetcar conductors, and locomotive engineers, showed that sensory alertness and physical dexterity began to fall off after 45 and that mental faculties exhibited increasing unwieldiness from that age on. Older workers up to age 60 gave as good results as young men of 20 on daily routine work, but had greater difficulty in adapting themselves to changed conditions.

ments, increasing brittleness of bones, decreasing accommodation of heart and eye, and the lessening of the recuperative power of the body generally—differ greatly as between individual workers.³ Some workers at 45 years of age are more aged physically than others at 60.

Another deficiency concerns the accuracy of reported ages, either as shown on injury reports or in the census. An analysis of census data as well as of injury statistics of State workmen's compensation boards indicates accentuations in the age distributions at the 5-year points and, secondarily, at even years. A publication of the New York State Department of Labor,⁴ showing ages of injured employees, lists 2,027 workers at age 38, 1,820 at 39, 2,410 at 40, 1,491 at 41, and 1,868 at 42. However, this tendency to estimate age instead of stating it exactly can be partly overcome statistically by a grouping of ages into 5- or 10-year periods.



Farm Accidents in Alabama, 1932 to 1938¹

In Alabama, which is predominantly a rural State, a study was made of farm accidents covering the years 1932 to 1938.² In this study, the farm-accident deaths were divided into two groups—occupational and nonoccupational. The first includes only deaths of persons gainfully employed in farming pursuits at the time of the accident, while the second includes deaths of persons residing on farms, but not so employed when the accident occurred. The two groups are designated, respectively, as “farm industrial” and “farm home.” According to the 1930 census, 72 percent of the population of Alabama was classified as “rural” and 50 percent as “rural farm.” Approximately 37 percent of the total population is Negro.

During the 7-year period 1932 to 1938, 309 deaths from farm industrial accidents were recorded—an average of 44 per year. Of this number, 186 persons, or 60.2 percent, were white, and 123, or 39.8 percent, were colored. Only 18 females, 8 of whom were white and 10 colored, were included in the farm-industrial classification. During the 6-year period 1933 to 1938, there was a total of 1,594 deaths, or an average of 266 per year, from accidents in farm homes. Deaths in 1932 were omitted, because in that year a severe storm of cyclonic proportions swept the State, causing so many deaths in farm homes that to have included them would have given an inaccurate and distorted picture. Of the total of 1,594 deaths, 960, or 60.2 percent, were white persons of whom 512 were females, and 634, or 39.8 percent, were colored persons of whom 325 were females.

The following table shows the total number of home and industrial accidents in Alabama, and the number and percent of accidents of each classification occurring on the farm, by years, 1932 to 1938.

³ For a summary of impairments according to age, see New York Joint Legislative Committee on Unemployment, Legislative Document No. 33: *The Older Worker in Industry*, by Solomon Barkin, Albany, 1933, pp. 104 and 107.

⁴ New York State Department of Labor, Special Bulletin No. 202: *Cost of Compensation, Two Years, 1936 and 1937*, Albany, 1939, p. 77.

¹ From the *Monthly Labor Review* for July 1940.

² American Journal of Public Health, New York, January 1940: *A Study of Deaths from Farm Accidents in Alabama*, by J. N. Baker, M. D.

Total number of deaths from home and industrial accidents in Alabama, and number and percent occurring on farms, by years, 1932 to 1938

Year	Home accidents			Industrial accidents		
	Total	Farm		Total	Farm	
		Number	Percent		Number	Percent
1932.....				168	44	26.2
1933.....	474	225	47.5	182	53	29.1
1934.....	595	292	49.1	209	47	22.5
1935.....	613	276	45.0	192	40	20.8
1936.....	645	284	44.0	236	47	19.9
1937.....	669	268	40.1	302	45	14.9
1938.....	652	249	38.2	196	33	16.8

The largest proportion of deaths from industrial accidents on the farms—46 percent—occurred during the four summer months, June to September, while the largest number of fatal accidents in the home—43 percent—occurred during the four winter months, December to March.

The occupations in which the largest number of deaths occurred, in the order of their importance, were cutting and sawing lumber, caring for animals, plowing, driving vehicles, clearing land, and riding animals—accidents in these occupations caused 176 deaths; while a total of 53 deaths occurred in building and repairing fences, hoeing, operating machinery, loading and unloading vehicles, repairing tools, and picking cotton. The 80 remaining deaths were due to a miscellaneous group of causes, or the cause was unknown.

There were 31 deaths of persons engaged in plowing, of which 10 were caused by lightning, 8 were attributed to sunstroke, and 6 involved animals. Twenty-two persons were killed while driving vehicles, three-fourths of them falling from wagons or trucks. Clearing land resulted in 17 deaths, more than three-fourths of which were caused by burns; and 17 persons were killed while riding animals. About half of the deaths from riding animals occurred among young persons 10 to 14 years of age.

Nearly one-half of the deaths from farm-home accidents were of children under the age of 15, almost one-third of these being under the age of 5 years. Burns, including those from burning buildings, were the cause of 536 deaths, or more than one-third of the total farm-home deaths. Falls caused 409 deaths, or 26.5 percent of the total; followed by 154 deaths, 9.4 percent, from firearms; 138 suffocations, 8.7 percent; and 122 deaths from poisoning, 7.7 percent. The remaining 235 deaths were due to a variety of causes, or the cause was unknown.

During the 6-year period 1933 to 1938, an average of 84 out of each 100 accidental deaths on farms were classified as home deaths, and 16 as industrial deaths.

The importance of farm accidents is shown by the fact that for the 6-year period, 44 percent of all deaths from home accidents in Alabama, and 20 percent of all deaths from industrial accidents, occurred on farms. Approximately 310 deaths can be attributed to farm accidents annually, which is a much larger number than is caused by any of the acute contagions taken singly.

Industrial Home Work

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Extent and Character of Industrial Home Work ¹

Industrial home work is a system under which goods are sent into the home to be produced by the homemaker and her children for profit-making industries. It has continued because home workers could be paid lower wages than factory workers and because the manufacturer passes on to the individual home many of his overhead expenses, such as rent, heat, light, and other normal work requirements, even cost of equipment. Furthermore, the home worker usually is responsible for getting and returning the work, or has to pay for such delivery. She is responsible for spoiled work and either has to pay cash for spoiled materials or has to make corrections without pay. Often she must make an initial cash deposit to cover cost of all material until she is paid for the work. Frequently she must make several samples of a pattern at her own expense before she can begin on paid work.

Regulation of Industrial Home Work

Industrial home work now is regulated by both Federal and State laws. The provisions of the Federal Fair Labor Standards Act of 1938 apply to workers engaged in their homes, producing goods intended for shipment in interstate commerce. The same minimum-wage rates established under the act for factory workers apply to home workers in continental United States. Under the Federal Public Contracts Act, a contractor furnishing goods to the Government must be a manufacturer or regular dealer. This means that industrial home work is not allowed on such goods.

Twenty States have industrial home-work laws or regulations—California, Colorado, Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, West Virginia, and Wisconsin—and the District of Columbia and Puerto Rico. These laws, ranging from those of long standing directed primarily toward protecting the health of the consumer to those of recent date stressing the health and welfare of the home workers and the maintenance of wage and hour standards of factory workers, prohibit the making of certain articles or regulate manufacture or processing in rooms or apartments of tenements or dwelling houses.

The Administrator of the Wage and Hour Division, in his first report to Congress covering the period from August 15 to December 31, 1938, listed the problem of industrial home work as one of the five major administrative problems encountered since the effective date of the act. As part of a discussion of this problem, the Administrator stated:

Reports have already come into the Wage and Hour Division which indicate that in a number of industries in which home work is possible and has been

¹ Prepared by Women's Bureau, U. S. Department of Labor.

practiced in the past, the passage of the Fair Labor Standards Act has led to an increased use of this method of manufacture. The Division intends to take vigorous steps to insure that the provisions of the act are enforced with respect to industrial home work, but it remains to be seen whether the Wage and Hour Division can succeed where so many State labor departments have failed. The primary difficulty is to get an accurate record of the hours worked by employees working on material in their homes. Employers under the act and under the regulations of this Division have the responsibility for keeping accurate records of hours worked each day and each week, and no difficulties present themselves in the keeping of these records for employees employed in factories. For the home worker, however, it is an entirely different story: the employer has no direct method of determining the number of hours worked by a particular home worker or a family of home workers on a lot of goods, because they do not perform their work under his immediate supervision.²

After a public hearing a special set of record-keeping books was devised as a method of trying out record keeping among home workers. In the first 15-month period of application of the Wage-Hour Act to home workers, 1,330 firms in 38 States requested handbooks for a maximum number of home workers estimated by them to be 42,144. By March 15, 1941, the number of firms had increased to 2,381. The actual number of home workers is not known, since there is no check on the number of handbooks asked for that actually were used, nor on whether or not the individual did home work for more than one employer.

Home work is overwhelmingly a problem of the northeastern part of the country, where there are 1,050 (79 percent) of the entire 1,330 firms that estimated the number needed in their applications for home workers' handbooks. Of all these firms giving out home work, about 45 percent are in New York, and about 63 percent in New York and New Jersey.

Location of Home Workers

Half of the estimated 42,144 home workers were for New York firms, 98 percent of which firms employed only within the State. Other North Atlantic States increased the total to 74 percent, and the addition of New England brought it to 81 percent of the estimated number. Three groups of States—6 New England, 8 Middle Western, 11 Southern—requested books for fairly equal numbers, 3,200 to 3,600.

This concentration of home workers in New York and neighboring States and in industrial New England is not surprising. Also important are Illinois and certain other States in the midwestern group; such clothing centers as California, Texas, and Maryland; and the mountain regions of Kentucky, West Virginia, Tennessee, Georgia, North Carolina, and Virginia. Perhaps somewhat less to be expected are the 95 asked for by Maine firms (shoes); 72 by Vermont (sewing and knit goods); 469 by Iowa (buttons and photography); 56 by Colorado (novelties); and so forth.

A recent Illinois report shows that less than 2 percent of the home workers in homes inspected were physically handicapped, and about 70 percent were less than 45 years of age. For the most part they were housewives who could not leave home but needed to supplement the family income; many also had to receive relief funds.

² Interim Report, part IV, pp. 3-7.

Chief Home-Work Products

Home work on more than 115 products can be singled out. However, a third of the estimated home workers—14,000 of the 42,000—were to be employed on leather gloves and various types of knitwear. The leather-glove work was done almost entirely in New York. About 7,600 of the 14,000 were to do work on knitwear, some of which consisted largely in finishings on garments not made in homes. For the various types of knitted wear, 86 percent of the home workers asked for were in New York and New Jersey, with an almost equal division between the 2 States. Another 11 percent were in Pennsylvania, Maryland, and Ohio. However, some work was to be done on knitwear in homes in 12 States. Most of the home workers asked for to knit women's sportwear were in New Jersey, with some in New York and Pennsylvania; of those to put the finishing touches on infants' knitwear, in New York, New Jersey, Maryland, and Pennsylvania; of the other workers on knitted wear, in New York and New Jersey, with appreciable numbers also in Pennsylvania and Ohio.

According to another type of analysis, over 60 percent of the home workers were to work on some 35 products included under the general terms of sewing, knitting, clothing, textile products, lace, art needlework, and various trimmings. Somewhat less than a third of these home workers were to work on knit goods of various types. For 7 of the 35 products fewer than 60 home workers were estimated. Those for work on textile products were as follows:

	<i>Number</i>	<i>Percent</i>
Textile and allied products.....	26,094	100.0
Knitwear	7,664	29.4
Embroidered goods	5,984	22.9
Trimmings	4,060	15.6
Other textile products (including hosiery).....	8,386	32.1

Workers on major home-work products other than sewing, knitting, and textiles included 6,367 for leather gloves; over 1,000 each for jewelry and buttons; over 800 for cards and for powder puffs; over 500 each for athletic goods and novelties; over 400 each for dolls and toys, shoes (infants' and so forth), and handbags; and over 300 each for paper products and shoe trimmings.

Puerto Rico

A special committee was appointed to make recommendations concerning home work in Puerto Rico, by the Administrator of the Wage and Hour Division. The report of this committee was accepted, and the wage order, which became effective December 2, 1940, prescribes payment of at least the following rates:

Twelve and one-half cents an hour for work in the home on handkerchiefs, household articles, cotton underwear, infants' wear, needlepoint, and hand-hooked rugs.

Fifteen cents an hour for work in the home on silk underwear.

Twenty cents an hour for work in the home and the factory on children's, ladies', men's, and boys' apparel.

Surveys of Industrial Home Work ¹

Since 1934 three reports on studies of industrial home work have been issued by the Children's Bureau of the United States Department of Labor. The first was undertaken in cooperation with the Women's Bureau of the Department, at the request of the National Recovery Administration, for the purpose of making available to its home-work committee, information regarding the conditions under which home work was being carried on in industries in which it had not been abolished by the NRA codes; the second was a study of industries in which home work had been abolished by the codes, undertaken also in cooperation with the Women's Bureau, immediately following the invalidation of the National Industrial Recovery Act; the third was a brief survey of industrial home-work conditions in the candlewick-bedsread and lace industries, made in 1939 at the request of the Wage and Hour Division of the United States Department of Labor, which felt the need for factual data on home-work conditions in order to test the adequacy of the regulation of home work under the Fair Labor Standards Act of 1938, particularly the method of dealing with home work through record keeping.

Because of the prevalence of child labor and the depressing effect on wages brought about by the use of the home-work system, labor administrators and others interested in child-labor problems have felt that it can never be satisfactorily regulated and should be eliminated. These three studies served to supplement previous surveys and to emphasize this conclusion. The following paragraphs briefly summarize the findings of these studies.

Industrial Home Work Under the NRA ²

Before the National Industrial Recovery Act,³ only 3 States had expressly extended their regulation of child labor to industrial home work, and only 10 States had made any attempt to control the conditions under which this work was carried on. Even where these attempts at control had been made, the home-work method of production continued, and during the depression such gains as had been made in the past were being rapidly lost in the general break-down of labor standards. The establishment of uniform labor standards through the codes for the various industries brought a general recognition of the menace of home work to decent labor standards for factory workers. Employers who were willing to pay fair wages to their employees saw that they would be helpless against the competition of employers who cut their production costs by unlimited home work. Therefore the necessity of controlling industrial home work was accepted by the leaders in many industries, and more than 100 NRA codes, including some for industries in which the home-work system had been extensively used, prohibited home work, and a number of other codes provided some degree of control.

¹ Prepared by the Children's Bureau, U. S. Department of Labor.

² U. S. Department of Labor. Children's Bureau. Publication No. 234: Industrial Home Work Under the National Recovery Administration. Washington, 1936.

³ 48 Stat. 195, ch. 90, Public. No. 67, 73d Cong.

In the summer of 1934, at the request of the National Recovery Administration, the Children's Bureau, in cooperation with the Women's Bureau, undertook a study to ascertain the conditions under which home work was being carried on in industries in which it had not been abolished, to determine whether the rise in factory labor standards in these industries affected home workers advantageously, and also to learn whether industries operating under codes that provided specific regulation of home work had been able to carry out the regulations successfully. The study covered nearly 2,500 home workers in 28 industries,⁴ in 7 States—Maine, Rhode Island, New York, New Jersey, Pennsylvania, Iowa, and Texas.

The main findings of the survey, which were made available in preliminary form⁵ to the National Recovery Administration before final publication of the report, showed that in the industries in which home work was still permitted, even though limited by certain regulations, the ancient evils continued to exist and to constitute a menace to the higher labor standards that had been achieved for factory workers. Although in some industries piece rates to home workers had been raised to a limited extent, in none of the industries included in the study were the earnings of any large proportion of the workers found even to approximate those of factory workers.

In regard to hours of work and the employment of children, only the lace industry had made a concerted effort to regulate them, and this effort had not succeeded. The system of reports and records put into effect by the code authority failed to accomplish its purpose and led instead to a great deal of false reporting. The efforts of the code authority had, no doubt, some effect upon the number of children employed; but nevertheless, that the terms of the agreement signed by the home workers were not being kept was evidenced by the fact that 8 percent of the home workers included in the study of this industry were under 16 years of age. This failure to regulate the hours of work and the employment of children, like the failure to raise earnings to the minimum set by the code for factory workers, has been due in part to the fact that piece rates have been set too low and in part—in one branch of the industry, at least—to the use of the contract system; but in general it is due to the inherent difficulties in regulating home work.

Prohibition of Industrial Home Work in Selected Industries Under the NRA⁶

As has been pointed out, when the codes under the National Industrial Recovery Act⁷ were being formulated, the necessity for controlling this system was recognized by the industrial groups instrumental in formulating the codes, and in several important home-work industries provision was made for complete elimination of the

⁴ The report discusses separately eight industries in which 84 percent of the workers included in the study were concentrated. These were: Knitted-outerwear industry; lace-manufacturing industry; infants' and children's wear industry; art-needlework industry; fresh-water pearl button industry; doll and doll-accessory industry; tag industry; and leather-glove industry.

⁵ For details, see *Handbook of Labor Statistics*, 1936 edition, p. 198.

⁶ U. S. Department of Labor, Children's Bureau, Publication No. 244: *Prohibition of Industrial Home Work in Selected Industries Under the National Recovery Administration*. Washington, 1938.

⁷ 48 Stat. 195, ch. 90, Public, No. 67, 73d Cong.

practice. Although the experience under the codes was of short duration,⁸ it was felt that a study of the results of these prohibitions while the codes were in effect would be useful in formulating policies as to practicable methods of dealing with the home-work problem. For this reason a survey in four States in which industrial home work was most prevalent—New Jersey, New York, Rhode Island, and Pennsylvania—was made by the Children's Bureau, in cooperation with the Women's Bureau.

The industries covered, in which the code prohibitions had been in effect for periods varying from 7 to 17 months, were the men's clothing industry, artificial-flower and feather industry, medium-priced and low-priced jewelry manufacturing, men's neckwear manufacturing, and tag industry—all five of them industries which in the past had employed large numbers of home workers.

In general, manufacturers reported that the difficulties of complying with code prohibitions had not been so great as had been anticipated, and the experience of both manufacturers and home workers in establishments that made a sincere effort to comply with code prohibitions indicate the practicability of eliminating the home-work method of production. Once the shift from home to factory had been accomplished, home workers adjusted themselves to factory routine in a comparatively short time and with comparatively little difficulty. Only in the artificial-flower industry, in which a number of firms had transferred the work to the factory at the old piece rates for home work, were any appreciable number of complaints received regarding the failure of home workers to adjust themselves to factory employment.

Although the majority of the workers taken into the factory were women with families—a comparatively large number of them 40 years of age or over—79 percent reported that they preferred factory work to home work because of increased earnings, shorter and more regular hours, freedom from night work, and the convenience of well-equipped working quarters. After the transfer of the work to the factory, piece rates paid to factory workers for operations formerly done at home were double and sometimes even treble those paid to home workers for identical operations. The median hourly earnings of 325 home workers reporting earnings prior to the code prohibition were 14 cents, while the median hourly earnings of a group of 1,715 factory workers engaged on the same operations they had performed as home workers, were 44 cents.

In defense of home work, it has sometimes been claimed that it is often the sole resource of a mother or older member of the family obliged to stay at home to care for the children of the household. But this study showed that for most of those families in which the home worker was taken into the factory it had not proved impossible to arrange adequate care for the family during the hours of employment. In fact, an analysis of the records of the 505 families included in the study reveals that in most families in which factory work was not obtained to compensate for the loss of home work, lack of opportunity rather than family responsibilities prevented employment.

⁸ The code-making power under the National Industrial Recovery Act, which went into effect June 16, 1933, was declared unconstitutional May 27, 1935, by the Supreme Court of the United States in the case of *Schechter v. United States*, 55 Sup. Ct. 837. The code prohibitions in the industries covered by the study had been in effect for periods varying from 5 to 17 months before the law was declared unconstitutional.

Although it is clear that the adjustment of industry and of home workers to the elimination of the home-work system will still require special effort, and although it cannot be expected that all home workers can be absorbed into factory work, this report does indicate that the difficulties incident to replacing home work by factory work are by no means insurmountable, and that honest efforts to bring this about will result in advantages to the employer and in the raising of general labor standards for workers in the industry.

Industrial Home-Work Conditions in the Candlewick-Bedsread and Lace Industries

A brief survey of industrial home work in two industries, the candlewick-bedsread and the lace industry, was made in the fall of 1939 at the request of the Wage and Hour Division of the Department of Labor. This method of industrial production is covered by both the wage and hour and the child-labor provisions of the Fair Labor Standards Act.⁹ Need was felt for factual data on current home-work conditions to test the adequacy of regulation of home work under the act, particularly its method of enforcing the wage and hour standards by the use of individual home-work handbooks.¹⁰

The survey was necessarily brief, as the report was desired by January 1940, and it was therefore possible to cover only two industries, the number of families interviewed being 200 in each industry. The field work on the lace industry was carried on in New York, Rhode Island, and New Jersey; that on the candlewick-bedsread industry in northern Georgia and an adjacent county of Tennessee. A combined report was prepared for the two industries, with recommendations formulated after conference with representatives of the Wage and Hour Division, the Women's Bureau, and the Division of Labor Standards.¹¹

The findings of the survey for the industries covered by the study were in general agreement with those of previous studies of industrial home work made by the Children's Bureau and other agencies. It was found that child labor continued despite the legal prohibition of the work of children under 16 years of age. The earnings of the

⁹ Industrial home work is interpreted to be within the coverage of the Fair Labor Standards Act by virtue of the fact that the law contains no exemptions differentiating employees who perform work for a factory in their homes from those who work in the factory proper. The wage-and-hour provisions of the act, applicable to employees engaged in the production of goods for commerce, make no qualification as to the place where employees work. [The Office of the General Counsel of the Wage and Hour Division has held that "employees otherwise coming within the terms of the act, are entitled to its benefits whether they perform their work at home, in the factory, or elsewhere." (Interpretative Bulletins Nos. 1 and 2, United States Department of Labor, Wage and Hour Division, Washington, 1938.)] The child-labor provisions, applying to employment in or about any establishment producing goods for shipment in interstate commerce, are applicable to industrial home work.

¹⁰ In the absence of express authority in the act to make special regulations for industrial home work, the Wage and Hour Division has used its authority to prescribe by regulation the type of employment records which employers shall keep, as the means of facilitating its attempt to enforce wage-and-hour standards where home workers are involved. These record-keeping regulations, effective April 1, 1939, call for the use of handbooks furnished employers by the Wage and Hour Division for each home worker. The regulations require that information be entered in the handbook on amount and kind of work received, date work was received and returned, hours worked, and wages paid. Entries in the handbook are to be made by the employer, but the handbook is to remain in the possession of the worker unless called for by the Wage and Hour Division. These regulations were effective for 6 months from April 1, 1939; new regulations with the same requirements were approved September 23, 1939. (29 Code of Federal Regulations, 1939 supp., sec. 516.90.)

¹¹ U. S. Department of Labor. Children's Bureau. Industrial Home-Work Conditions in the Candlewick-Bedsread and Lace Industries. Prepared by the Children's Bureau and transmitted to the Wage and Hour Division, United States Department of Labor, January 6, 1940. Washington, May 1941. (Mimeographed.)

majority of the home workers, in the two industries covered by the study, continued to be substandard, and the hours of work for some were excessive, in spite of attempts to enforce the wage and hour standards of the Fair Labor Standards Act.

Reliance on records of hours worked by home workers as an essential part of the existing plan of home-work regulation was shown to be unsound. The widespread falsification in hours of work recorded in the home-work handbooks, as well as neglect to use these books, indicated that the obstacles to accurate reporting of hours under this system were practically insuperable.

As to remedial procedures, the report pointed out in regard to lace manufacturing that the performance in the factory of processes customarily done by home workers had been shown to be practicable. In the candlewick-bedspreed industry, it was shown that this industry during the past few years has changed from one using hand methods of manufacture to one using chiefly machine-production methods, so that greatly increased employment at hand tufting of bedspreeds among rural workers formerly doing home work for the industry could not be anticipated, regardless of whether the industry's request for exemption from the application of the Fair Labor Standards Act should be granted. It was therefore recommended that no special treatment be accorded the industry under the act.

Concluding that home work, performed as it often is under substandard conditions, constitutes unfair competition not only with branches of the industry that do not use this method of production but also with factory workers employed in conformity with good standards, the report recommended that factory production be substituted for industrial home work as the most effective means of guaranteeing workers the wage, hour, and child-labor standards established under the Fair Labor Standards Act, and that if immediate prohibition in all industries was found not practicable, such prohibition should be brought about industry by industry through order of the administrative agency. To prevent individual cases of undue hardship, it was also recommended that the administrative agency be authorized to permit handicapped workers to continue home-work employment under safeguarding administrative regulations.

Industrial Relations

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Handbook of Labor Statistics: 1941 edition.

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COLLECTIVE BARGAINING

Collective Bargaining With Employers' Associations¹

One of the major efforts of labor unions has been directed toward the standardization of working conditions throughout an industry or area, thus eliminating or reducing the factors of wages and hours in competitive costs. To achieve this the unions have encouraged parallel organizations of employers in order to obtain extended coverage under one agreement. When collective bargaining with employers' associations has been impractical or impossible, unions have presented identical agreements to the several employers within an industry or competitive area. The latter method is usually applied where there is a large number of small firms, particularly within a metropolitan area. The agreements of the Steel Workers' Organizing Committee are examples of the extension of this method to a mass-production industry. Although all the iron and steel agreements are signed by individual companies, the agreements embody nearly identical conditions of work.

The employers' associations with which some of the unions deal are usually not the industry's regularly established trade association. The trade associations generally antedate the formation of a strong labor union in an industry and, as a rule, the first efforts of a union to secure agreements are confined to bringing individual companies into contractual relations with their employees. When a number of companies within an area or industry have signed agreements, a frequent development is the formation of an employers' association or a less formal committee to represent the union firms within that area or industry in their dealings with their organized employees. Such employers may continue to be members of the trade association for their industry.

Although industry-wide trade associations have come to be a common characteristic of American business, the scope of employers' associations which deal with unions is generally much more limited. In some cases this may be due to the emphasis of the union on uniting employers for bargaining purposes within a metropolitan area, rather than on a national scale. As a rule, however, the unions work toward the extension of the collective agreement to as wide a section of the industry as possible. In a number of cases the unions and the employer's associations have together directed their efforts toward bringing unorganized firms within the scope of collective agreements. A necessary corollary of dealing through employers' associations is a high degree of unionization among the employees. It is estimated that about 3½ million workers are covered by agreements negotiated with national, regional, or city-wide employers' associations.

There are only a few examples of industry-wide collective bargaining in this country. Agreements covering all the employers in an

¹ From *Monthly Labor Review*, August 1939 (p. 302).

industry within a region are also infrequent and most of the instances of association dealing occur on a city-wide basis. This article describes the areas of bargaining with employers' associations at the present time—industry-wide, regional, and city-wide. Few of the examples mentioned occur in the recently organized mass-production industries, although an agreement with a single plant in the automobile or rubber industry may cover many more employees than an association agreement covering every firm in an industry or trade within the same city. The predominance of large corporations in these industries has caused the efforts of unions to be directed first toward bringing all the plants of a given corporation, regardless of geographic location, within the scope of one agreement. An example is the corporation-wide dealing between the General Electric Co. and the United Electrical, Radio, and Machine Workers of America. Although the coverage of such corporation-wide agreements in standardizing conditions of work in many cases far outnumbers that of many of the agreements with employers' associations, such corporation agreements are outside the scope of this article.

Nation- or Industry-Wide Bargaining

Coal industry.—In anthracite mining a single agreement is signed to cover all operations. Bituminous-coal mining is characterized by agreements covering geographic regions, which are negotiated with regional mine operators' associations. Actually, however, collective bargaining for many years has been conducted on a Nation-wide basis. With some interruptions, the United Mine Workers of America has maintained uniform working conditions in a major part of the bituminous-coal industry by signing separate agreements which expire on the same date. After the negotiation of a new agreement for the most important producing area, the other districts have proceeded to sign agreements with virtually identical terms.

At the present time the union negotiates the first agreement with the Appalachian conference of operators, composed of representatives of the various regional associations within that area. At this conference other regional associations of operators also have their representatives. It is in this conference that the actual bargaining on an industry-wide basis takes place and the signing of agreements in other districts, subsequent to the signing of the Appalachian agreement, is largely a formality.

Railroads.—The traditional bargaining unit in railroad transportation is the individual railroad system. The workers are organized on the basis of craft, and each craft union negotiates separate agreements with the various systems. National bargaining has occurred at intervals since 1932. Although the regular working agreements continue to be signed by system, major questions of wage increases and decreases have been settled since that time on a national scale. The Association of American Railroads is the mechanism through which the railroads conduct the Nation-wide bargaining, while the labor organizations are brought together through the Railway Labor Executives Association which is composed of the presidents of 20 unions of railroad workers.

Other examples of industry- or trade-wide bargaining.—The American examples of trade-wide bargaining of longest status occur in the

pottery and glassware industries. Since the early years of this century an annual meeting has been held between the representatives of the United States Potters' Association and the National Brotherhood of Operative Potters. The National Association of Pressed and Blown Glassware has been meeting with the American Flint Glass Workers' Union for a similar period, as have the glass bottle manufacturers—though not organized into a formal association—with the Glass Bottle Blowers' Association of United States and Canada.

In each of these cases the bargaining agreements are confined chiefly to detailed piece-rate schedules, although a considerable body of "unwritten law" has developed in supplement to the national agreement to govern employer-employee relations within a plant. Originally, the trade-wide bargaining was established to regulate the working conditions of highly skilled craftsmen within these industries. With the development of technological changes, one skilled occupation after another has been eliminated. As a result the unions have extended their jurisdiction to include a major part of the workers in and around the plants and these unskilled and semiskilled employees are now covered in the national agreements to the degree that they are unionized. In the glassware industry, several large companies have never been organized and consequently are outside the scope of the agreements. In the pottery industry virtually the entire industry is covered. Although the coverage of the national agreements has fluctuated with the strength of the unions, for several decades in these industries the existing bargaining relations have been on a national scale.

There are a few other instances of industry-wide dealing, each of them originating from the efforts of a highly skilled craft to protect its conditions of employment. Among these are the Wall Paper Institute and the United Wall Paper Crafts of North America, covering wallpaper printing; the National Automatic Sprinkler Association and the United Association of Journeymen Plumbers' and Steamfitters of the United States and Canada, covering sprinkler fitting; the Manufacturers' Protective and Development Association and the Molders' Union of North America, covering stove-molding and hot-water castings; and the Wire Cloth Manufacturers' Association and the American Wire Weavers' Protective Association.

A somewhat similar instance occurs in the elevator manufacturing industry. Although wage rates are negotiated locally, the manufacture and installation of elevators are largely regulated by national conferences between the National Elevator Manufacturing Industry and the International Union of Elevator Constructors. A standard agreement is used in all localities, with the locally negotiated rates inserted as agreed upon.

The manufacture of wooden kegs and barrels should also be mentioned as an instance of national conferences between the employers and the union. The conferences, however, have resulted in no agreement on an industry scale and discussion of working conditions has been of far less importance than mutual discussion of trade-promotion plans.

A different kind of bargaining relationship has been built up in the manufacture of flat glass. By far the major part of the production in this industry is centralized in two large producing companies. These companies deal individually with the American Federation of Flat

Glass Workers. The independent manufacturers are organized, however, into the Fourcalt Manufacturers' Association which deals with the union on a unified basis for the rest of the industry.

Collective Bargaining for Geographic Areas

In the hosiery industry a bargaining relationship of 10 years' standing exists between the Full-Fashioned Hosiery Manufacturers of America, Inc., and the American Federation of Hosiery Workers. The employers' association, originally covering only Philadelphia mills, now covers a major part of the northern section of full-fashioned hosiery manufacture. Conferences occur annually, with occasional additional meetings on specific subjects. Under the agreement the joint relations are administered by a permanent impartial chairman. A recent modification in procedure provides for the local negotiation of wage scales within the framework of the general agreement. The hosiery workers' union was instrumental in the formation several years ago of the American Hosiery Dyeing and Finishing Association. This association, composed largely of New Jersey and Pennsylvania mills, bargains with the Hosiery Workers for its members.

In the textile industry recent developments have brought into contractual relationships with the Textile Workers' Union of America a major part of the northern silk mills, combined into several associations. An arrangement of longer standing exists in the dyeing and finishing of textiles in nonintegrated mills. In both these instances, the main strength of the employers' associations is in New Jersey and Pennsylvania.

Maritime workers frequently deal with employers' associations covering the shipping lines and dock employers on a given coast. Since the workers are organized into craft unions, agreements usually are signed separately for each craft. On the Pacific coast, however, the maritime unions are affiliated with the Maritime Federation of the Pacific which secures cooperation in bargaining between the various crafts. There the separate agreements expire on the same date and none of the unions sign a new agreement until satisfactory terms have been reached by all. On the Pacific coast the coastwise and intercoastal lines, the latter not organized into a formal association, deal as units with the workers' unions. On the Atlantic coast only the unlicensed personnel, through the National Maritime Union, deal with an association of shipping lines. Longshoremen, though customarily signing agreements with port associations, usually secure some degree of uniformity on a coastal basis through conferences. The degree of uniformity is highest on the Pacific coast.

In the Pacific Northwest the pulp and paper industry, though dealing elsewhere on the basis of individual companies, is combined into the Pacific Coast Paper Manufacturers' Association which deals with the two unions in the field. The unions, representing different occupations in the industry, are the International Brotherhood of Papermakers and the Pulp, Sulphite, and Paper Mills Workers of the United States and Canada. Although agreements are signed separately, for the past several years the terms have been negotiated in joint conference.

The lumber industry is one which is not yet well organized throughout the country but in which the dominant method of present dealing is through associations within the producing area. The Columbia Basin Loggers' Association and the Timber Producers' Association in Minnesota are examples of associations dealing with the union in this industry.

The fishing industry, particularly on the Pacific coast where it is well organized, is an example of bargaining almost exclusively on an association basis. The employers, however, are organized into a number of separate associations, such as the Alaska Packers' Association and the Central Pacific Wholesale Fish Dealers' Association.

Two outstanding developments of dealing over a large area have recently occurred. One is the agreement between the National Association of Retail Meat Dealers and the Amalgamated Meat Cutters and Butcher Workmen of North America. This is a uniform agreement for 30,000 retail meat dealers—largely in the Middle West—but wage rates are separately negotiated with associations of dealers within each city. The other significant development is the agreement between 12 interstate trucking lines, not organized into a formal employers' association, and the International Brotherhood of Teamsters, Chauffeurs, Stablemen, and Helpers of America. This agreement also covers the middle western area. Both of these area agreements occur in industries which have been characteristically dealing with unions through employers' associations confined to the firms operating within a given city.

Bargaining in the needle trades within metropolitan areas.—Outstanding examples of stable bargaining relationships over a long period of time between employers' associations and unions are found in the needle trades. In the men's and women's clothing, men's hats and millinery, and fur industries the earliest efforts of unions to organize were accompanied by efforts to combine into associations the employers within the producing area. Bargaining has become established in these industries, with highly developed industrial relations machinery within each of the metropolitan areas which are important as producing centers. These unions and employers' associations customarily make use of a permanent impartial chairman to administer the agreement and there are numerous examples of joint trade boards, stabilization commissions, and other similar bodies which deal on a day-to-day basis with the problems of the industry.

These industries all have the problem of "run-away" shops, which leave the unionized areas and, with the small capital investment required, are able to establish themselves in low-wage, semirural sections. This has been a major reason for the unions' insistence upon dealing on an association basis, for it is through the combined pressure of both the union and the employer association that these "run-away" shops can be brought under control. Another problem within these industries is the regulation of the jobber-contractor relationship. Jobbers have taken advantage of the extreme seasonal fluctuations, and the small investment involved in setting up a shop, to encourage an oversupply of contractors. Cut-throat competition among the contractors has been furthered by the frequent practice of establishing "fly by night" shops for the duration of a contract secured by underbidding regularly operating shops. Both the owners

of shops operating under union conditions and their workers have thus faced a constant threat to industrial stability. Through collective bargaining, the oversupply of contractors has been dealt with and the jobber's responsibility for maintaining union conditions in his contract shops has been established. A large portion of the employer-union negotiations in the needle trades deals with these three-way problems, in addition to the usual wages, hours, and working conditions.

The employers within a given city are usually organized into more than one association within each of the needle trades. The basis of distinction is both the type of product and the classification of employers (i. e., jobbers, contractors, or inside manufacturers). The unions have frequently expressed a desire for more uniformity among the employers' organizations throughout the industry. Although a major part of the production in the country is covered by the New York City agreements alone, the unions have made repeated efforts over several decades to secure industry-wide dealing in the interests of national standardization. Thus far, there has been only one successful instance—a recent Nation-wide conference to negotiate the amount of a wage increase in men's clothing.

Other city-wide dealing.—In many industries and trades characterized by numerous small establishments within a city, collective bargaining has been conducted with associations of employers within the city. In many cases the associations are formal organizations in which the association officers have the power to bind all members to the agreed terms of employment. In other cases the employers may unite informally and perhaps only for the duration of the bargaining conferences. In many instances the lack of a continuing employers' association makes no difference in the actual negotiation of the agreement, but complicates considerably the enforcement of the agreement.

In cases of city-wide bargaining the extent of coverage of the employers' association generally depends upon the strength of the union. It is common to find within a city an organized group of employers dealing with the union, while other employers within the same industry are organized into a separate association or have no organization. In some cases the union employers form an organized group within a trade association which also includes nonunion employers in the city.

There are probably 5,000 local or city employer associations throughout the country which deal with various unions. More of these are found in building construction than in any other single industry. Other examples, where the predominant method of dealing is with city-wide associations, are brewing, retail trade, baking, printing and publishing, restaurants, trucking, and barber shops.



Closed and Preferential Shop in Union Agreements ¹

More than half of the union agreements on file with the Bureau of Labor Statistics contain provisions requiring that all employees be members of the union. It is estimated that about 3 million of the

¹ From *Monthly Labor Review*, October 1939 (p. 830).

nearly 8 million organized workers in the United States in 1939 were working under closed-shop conditions. Many other union members, as, for instance, the railroad workers, also work under conditions approximating the closed shop although this is not formalized by written agreements.

While some employers have bitterly opposed the granting of the closed shop, unions have countered that this was due not so much to their objection to the closed shop as to their unwillingness to accept collective bargaining. Some employers are favorable to the closed shop, believing it to have a stabilizing effect in employer-employee relations. Such employers feel that the union representatives, relieved of the necessity of increasing membership in the plant, will be less likely to present extreme demands which otherwise might be put forward as a membership appeal. Where differences in wage rates have brought about cut-throat competition throughout the industry, many employers have welcomed the closed shop in order that wages might be stabilized, thus removing labor costs and other working conditions as a competitive factor.

Unions cite these same advantages as accruing to both employers and workers. To the unwilling employers and nonunion members they defend the closed shop on the principle that when a majority in a plant or bargaining unit elects a representative agent, the minority should accept the decision of the majority.

Until recently a union generally established its claim to majority representation through negotiations with the employer or, if met with resistance, through strike action. More recently this has been done through an election conducted by a Government agency. In some cases the Government agency or the employer, when no recourse has been taken to the Government, will accept proof of a majority in the form of membership records of the union. It is possible, of course, for a union official and employer to agree that a closed shop shall be established without the employer's asking for proof that the union represents a majority of his employees.

Closed Shop

The largest single group of employees working under closed-shop conditions is in the coal-mining industry, which is almost completely organized and in which all but a relatively few mines are under closed-shop agreements. In the men's and women's clothing industries, both of which are over 90 percent organized, the closed shop prevails in most markets. The printing industry is another example of an industry which is well organized and in which a closed shop is general. Most of the unionized construction workers are under closed-shop agreements, although in some instances members in one trade will work on the same project with nonunion men of another trade. Many city transport workers and employees of the electrical-equipment and radio industries also work under closed-shop conditions. Highly organized industries in which the closed shop is found in a majority of union agreements include breweries, motion-picture production, the fur trade, metal trades, and the manufacture of glass, millinery, and hats. Industries less well organized, but in which the closed shop prevails in the organized section of the industry, include bakeries,

barber shops, retail establishments, hotels and restaurants, laundries, quarries, trucking and transportation, upholstery establishments, and the manufacture of shoes, hosiery, pulp and paper, and jewelry.

In union agreements a closed shop is established by a provision requiring union membership as a condition of employment in the plant or in the occupations covered by the agreement. In agreements establishing a closed shop for the first time the provision may grant a leeway of a designated number of days, during which time all non-members must join the union as a condition of continued employment.

A necessary counterpart of a closed-shop provision is the requirement, which may be written into the agreement or merely implied, that the employer discharge any employee who refuses to join the union or fails to remain in good standing with the union. The latter would cover instances of failure to pay dues or unusual circumstances through which the union voted to expel the employee concerned. In most cases the question of an employee's failure to maintain his good standing with the union is a matter for decision by the union members alone. In a few agreements, however, it is provided that the employer must be given a complete account of the situation or be permitted to participate in some way in decisions concerning the expulsion of members from the union.

Provisions establishing a closed shop usually are accompanied by provisions outlining the procedure to be followed in hiring new employees. The provision in agreements which gives most control over hiring to the union is that requiring the employer to place an order with the union for the number of workers needed. The union then supplies the necessary number of workers, giving the employer the opportunity to refuse men furnished by the union only when a lack of qualification can be clearly established. Less frequently it is provided that the employer is to be furnished with a list of available members from which he may select the number required.

When the union is not made the source of supply, there are two alternative procedures found in agreements: One permits the employer to hire any union member available; the other permits hiring from any source, but requires that nonunionists hired must join the union before starting to work or after a given period of time on the job. A combination of the two alternatives is found in agreements permitting the employer to hire nonmembers only when union members are not available and then only if they are willing to join the union. When there is no shortage of experienced workers in the industry, these provisions give the employer fairly complete control over the selection of his working force, as he may select from the union members or hire anyone willing to join.

A restriction on the employer's free selection of workers will actually occur under any of the provisions outlined above, if the union refuses to open its membership to new applicants or establishes initiation fees or other membership requirements which might be prohibitive. If the union is hesitant to accept new members as labor needs in the industry or trade expand, the employer will face a shortage of labor because of the requirement that he may hire only union members. To obviate such situations some agreements provide that the union may not change its membership requirements or refuse to admit applicants during the life of the agreement.

Modifications of the Closed Shop

Although modifications of the closed shop are found in a number of agreements, these are not frequent. There are no industries in which a modified closed shop is the prevailing practice and there are only isolated instances of modifications in the various industries and trades covered by union agreements.

One modification places no compulsion to join the union on any employee, but provides that employees already members must continue their membership once they have joined. This arrangement insures the union against membership losses. As in the closed shop union members who lose their standing with the union would be discharged. Hiring of new employees would not be through the union, although it might be provided that the union would be asked to suggest some of its members for consideration along with nonmembers whom the employer might wish to consider. This modification of the closed shop may stand by itself or may be combined in an agreement with provisions granting preference to union members in various phases of the employment relation. The preference might cover hiring, promotion, and lay-off, or be restricted to one of these.

Another modification places the emphasis on the job. In such cases it is required in the agreement that once the incumbent of a position has joined the union the job becomes "union." From that time on, the job must continue a union job and if the incumbent leaves or is discharged, the replacement must be by a union member. Jobs which have not yet become "union" may be filled by either members or nonmembers. In this case employees working on "union" jobs would be required to continue membership in good standing as a condition of employment and would be subject to discharge if their good standing were lost.

Since hiring of union members is required for a certain proportion of jobs within the plant, a special procedure requiring reference to the union may be established for filling these jobs. On the other hand, the employer may be left free to select his workers from any source, provided the "union" jobs are filled by union members. Since this provision, in effect, provides a limited preference for union members in hiring, the modification may be brought closer to actual closed-shop conditions by a further requirement for union preference in promotion and lay-off.

A third modification makes no stipulation concerning joining the union or continued membership for present employees, but requires that all new employees must be union members or must join within a specified time. Unless the plant experienced virtually no labor turn-over or expansion, this provision, of course, would lead in time to approximately closed-shop conditions.

Other types of modifications are found occasionally in union agreements, but are very uncommon.

Preferential Shop

The preferential shop gives union members preference in some aspect of employment—most commonly in lay-off. Under such a provision, union members are the last to be laid off when a general

curtailment of force is necessary. This provision is frequently accompanied by the requirement that union members must be given preference in reemployment or in new hiring. The reemployment preference may apply only to those union members who are former employees of the company. On the other hand, the hiring preference may be made much more extensive by requiring that only union members may be hired so long as they are available.

In these hiring provisions the union may be consulted as the source of supply for employees who have never before worked for the company. Such a provision is concerned chiefly with securing jobs for union members rather than obtaining and maintaining a union-shop condition. For this reason there is unlikely to be any emphasis put on requiring new employees to join. If the latter were the case, an approximation of a closed shop would be established.

In industries or trades where there is a line of promotion, the preferential shop may be extended so that preference is granted union members in cases of promotion as well as hiring and lay-off. The promotion preference is far less common than the other application of preference to union members.

The preferential shop is not at present in effect in many of the plants covered by union agreements. It is estimated that somewhat less than half a million American workers are employed under preferential union shops. Some industries in the past have quite generally operated under agreements with union preference provisions but have changed to other arrangements. There are a few fields of employment—flat-glass manufacture, newspaper offices, maritime transportation, and longshoring—in which the preferential shop is prevalent. Outside of these industries the preferential shop is established in scattered instances.

Union Recognition

In the closed-shop agreements the union signing the agreement is automatically recognized as the sole bargaining agency for the employees. This would also usually be true where the union has secured a modification of the closed shop or a preferential shop.

In many instances, however, a union obtains recognition as the sole bargaining agency without raising the question of a closed or preferential shop. This has particularly characterized the union agreements signed in the recently organized mass-production industries. Granting sole recognition to a union prevents the employer from dealing with any other union during the life of the agreement. It would also prevent dealing with nonunion employees under an employee-representation plan.

Unions may be recognized as the bargaining agency for their members only. In many agreements which do not specify the degree of recognition given to the union it is obvious, because of the lack of provision to the contrary, that the union is recognized as the bargaining agency only for its members. This type of provision, of course, does not eliminate competition within a plant between rival unions or between a labor union and an employee-representation plan.

Many agreements specify to what extent individual bargaining is permissible on the part of employees who have not joined the union or who have joined, but may prefer to discuss individual grievances with an employer representative before turning the matter over to the union. Union recognition of either type will not in itself prevent whatever individual negotiations an employee might wish to conduct, but group negotiation by nonmembers would not be permitted when a union is recognized as the sole bargaining agency.

Check-Off

The check-off is a method of deducting from the employee's pay at regular intervals the amounts due the union for dues, fines, initiation fees, or assessments. The total deductions from all employees affected are then turned over to the union by the employer. To facilitate the deduction the union is usually required by the agreement to furnish the employer in advance with a list of the amounts payable by each union member.

The check-off provision may establish a general check-off for all employees or, in the absence of a closed shop, for every union member, without the necessity of requiring individual authorization. Another type of check-off provision, however, establishes the deduction only for those employees who file individual authorization with the employer. Such authorization must usually be in writing. The agreement may provide that the authorization holds until withdrawn by the employee or until the expiration date of the agreement.

The check-off method of collecting union dues has been of much less concern to unions than the problems of establishing protection for union membership through a closed or preferential shop or of safeguarding bargaining rights by securing recognition as the sole bargaining agency. For this reason some well-organized unions have never suggested that the check-off be incorporated in their agreements.

The check-off has no essential relation to provisions establishing closed, preferential, or open shops. As a rule, however, unions which are well enough organized to obtain a check-off system are likely to bargain also for a closed shop. In the negotiations conducted by the union the check-off is usually incidental to the more vital provisions affecting the status of the union and its members in the plant. To the union, of course, the check-off is a great convenience and, although some employers have objected, others prefer this method as a means of avoiding the confusion and lost working time which occur when a union business agent collects from each individual member in or about the plant.

Coal mining and hosiery manufacture are the only major fields of employment in which the check-off is the prevailing practice. About half of the national and international trade-unions in this country, however, have at least a few examples of check-off provisions in the agreements signed by their local unions. These are frequent, though not the common practice, in men's and women's clothing, metal smelting, trucking, city transport, gas and coke, and the manufacture of glassware, shoes, and cement.

Settlement of Grievances Under Union Agreements ¹

Just as in civil government a law must be implemented by machinery for enforcement and interpretation, so employer-union agreements usually provide some procedure for the settlement of disputes and grievances arising over the interpretation and application of their specific terms. Frequently, too, certain clauses in the agreement are purposely made very general with the expectation that details will be worked out through the joint machinery provided.

The adjustment of disputes under collective bargaining calls for a series of procedural steps carefully outlined in the employer-union agreement. Beginning with negotiations at the point of origin of the dispute, higher union and employer representatives are successively brought into the negotiations. Usually there is provided a final step in the adjustment process, to be used when negotiations between the highest union and company officials have failed to reach a settlement. This final step is almost invariably arbitration by an impartial individual or agency. In some instances continuing joint committees may be established to deal with industrial problems which have proved to be a recurring source of grievance. Throughout all steps in the adjustment process it is understood that strikes and lock-outs are to be used only after all other methods provided for the adjustment of the dispute have failed.

Union Representatives

Shop committees.—The workers select representatives to negotiate on their behalf with the management when a dispute arises. The most common procedure is for the workers in a shop, or in each department of a large plant, to elect one of the plant employees as shop chairman or steward, who acts as their representative in the initial handling of a grievance. The chairman or steward may function with a shop committee, also directly elected by the employees whom the committee is to represent. In large plants this shop committee is composed of the shop chairmen elected from the various departments. Occasionally the shop officers may be appointed by the local union rather than elected by those members of the local who work in the particular shop.

In some cases the shop representatives are required to receive instructions from the membership before taking any action; in others they may proceed without consulting the membership in advance. The committee is, of course, subject to discipline if its actions are not supported when it subsequently reports the results of its negotiations to the union members.

The shop chairmen and shop committeemen remain employees of the company. In some plants they have the right to perform their duty of representing the employees on company time, with no loss of pay. In piece-rate industries the union may compensate the shop representatives for time lost. In some agreements members of the shop committee are protected by being placed at the top of the seniority list of the plant or department in which they work.

¹ From the Monthly Labor Review, February 1940 (p. 286).

Business agent.—In building construction and a few other trades, the major burden of enforcing the agreement provisions falls upon the business agent.

Although the shop chairman is responsible in the shop for securing the employer's compliance with the terms of the union agreement in adjusting disputes, the business agent has this responsibility for all plants in the same industry throughout a city. He keeps in touch with the work of the shop chairman and handles grievances not settled by the shop committees. The business agent is a paid, full-time officer elected by the members of the local union or appointed by a designated union official. He is not an employee of any of the workplaces covered by the union agreement, but is usually experienced in the industry through previous employment.

In order to function, the business agent must be able to enter the plants under his jurisdiction, during working hours, and check up on working conditions at first hand. He may be able to move about freely in the shop or on the job, discussing with the members the observance of the agreement provisions or any disputes which have arisen, but in some cases his activities are limited to discussions with the shop chairman or shop-committee members, and it may be specified that he may go through the shop only when accompanied by a company representative. In practice or by specific provision in the agreement, his visits are timed so as not to interfere with production.

Other representatives.—Depending upon the character of the industry as well as the bargaining tradition of a union, appeal of a dispute to higher company officials may be handled by the officers of the local union, or provision may be made for the active participation of regional or national officers of the union in the final stages of the joint negotiations. Union locals organized on a city-wide basis, or including many small workplaces in a given area, ordinarily settle their grievances without reference to representatives of the national office of the union, the business agent dealing with the necessary officials of the companies.

On the other hand, unions organized in plants of large industrial corporations often reserve the higher stages of grievance appeals to outside regional or national representatives of the union.

When a case goes to arbitration the union ordinarily selects the worker representative on the arbitration committee. The extent to which the selection of the union representative is made by the union membership, or is appointed by a union official or committee, varies with local practice. In either case the choice usually falls upon a worker in the locality with considerable union experience.

Employer Representatives

The employee's immediate supervisor, whether foreman or department superintendent or manager, is ordinarily the first negotiator on behalf of the employer in dispute negotiations with the union. In small establishments, the owner himself may handle the initial negotiations.

In large industrial concerns there are certain officials who are in turn responsible for dealing with the union in the matter of grievances. These include the foreman, the department superintendent,

division superintendent, and the plant manager. Personnel officers, where these are employed, usually enter into the picture when appeal is taken beyond the foreman, although in some instances the personnel office is involved only after negotiations with departmental officials have failed to secure a settlement. A number of agreements authorize appeals to the head office of a large corporation, if a dispute is not settled with the officials of a local plant, but some do not provide for negotiations beyond the plant management.

In a number of industries, agreements are made with associations of employers. These may be city-wide, regional, or nation-wide in scope. Although these associations are at times solely for the purpose of negotiating new agreements, often they also serve as enforcement agencies and association officials may help to settle disputes arising under the agreement. In most association agreements the individual employer, if not able to settle a dispute directly with the union, gives over the responsibility for further negotiations to representatives of the association. These association representatives are elected by the member firms and, like the business agents of the union, are men experienced in the industry and familiar with its problems.

Joint Committees

Joint employer-union committees for the adjustment of disputes are provided for in many agreements. The large majority of these committees are selected only when the need arises to discuss a particular dispute which the parties are unable to settle by direct negotiations. By the appointment of an impartial member such committees become arbitration committees, although an effort is usually made to settle the case prior to calling in any outside party.

Union agreements, particularly those with associations of employers, often establish joint committees on a continuing basis, to function throughout the life of the agreement. When the agreement covers more than a single city, joint machinery may function over a wide area and will assume major importance in the industry. In industries which have agreements covering virtually the entire industry—such as coal mining, pottery, and glassware—the joint machinery operates for the entire industry.

Negotiating Procedure

An employee with a grievance generally goes directly to his union representative, who proceeds to negotiate with the foreman on the matter. In a few cases, an employee must take up an individual grievance with his foreman before bringing it to the union representative. Such a requirement is usually avoided by the union, which prefers to be a part of the negotiating procedure from the start, in order to insure enforcement of the agreement. In addition, an employee with a justifiable grievance might hesitate to approach his foreman directly, particularly if the grievance involved a discriminatory act on the part of the foreman.

Meetings between union representatives and the management for consideration of grievances are occasionally set for regular times, but usually the meetings are arranged on the request of either party. If

negotiations are handled by full-time, paid officers of the union, meetings are invariably during working hours. The adjustment of grievances on company time by shop representatives is also frequently permitted. In some cases meetings between employer and shop representatives may be held only after working hours.

Time limits within which negotiations must take place are quite often prescribed by agreements, particularly when one party has suffered through dilatory bargaining practices of the other. These limits may be for one or more stages in the negotiating procedure, though limits for the later steps are more frequent. In some cases the company has insisted on the presentation of grievances in writing, but in the overwhelming majority this is avoided in order to assure the greatest possible flexibility in negotiations.

When joint machinery functions on a continuing basis to deal with the problems of the industry, it is the general practice to permit union representatives or public accountants hired by the union access to books and records.

Impartial Agencies

The great majority of union agreements make provision for referring a dispute arising over the interpretation or application of the agreement to an impartial person or agency for arbitration, in the event the parties to the dispute are unable to settle the matter. The most common form of outside reference is through the selection of an impartial chairman by a committee on which both sides are equally represented. The chairman may be selected to function with the committee from the beginning or may be added only after the joint committee has failed to make an adjustment. A majority vote of the arbitration committee usually decides the controversy, although occasionally the impartial chairman may make the award alone. In some instances the dispute is referred to a board of several impartial arbitrators. The cost of arbitration is borne jointly by the employers and the union.

Some agreements do not leave the selection of an arbitrator until the time when the dispute gets to the stage of arbitration, but specify a certain individual who is to act as arbitrator as needed throughout the life of the agreement. The selection of the impartial arbitrators, in the event the representatives of the two parties cannot agree upon a choice, is sometimes referred to governmental agencies, such as the United States Department of Labor, the National Labor Relations Board, Federal and State judges, or a State arbitration board. The American Arbitration Association, a private agency, is sometimes asked to appoint an impartial referee to settle a dispute.

The permanent impartial chairman, functioning as needed throughout the life of the agreement, is found in those industries where the union deals with associations of employers and in which the employers have agreed upon continuing machinery to settle complex production and wage problems in addition to ordinary grievances and disputes arising under the agreement. This type of arbitration machinery is common in the garment, millinery, fur, and hosiery industries and for longshoremen on the Pacific coast.

In the few agreements which do not provide for arbitration, there may be provision for referring the dispute to a State or Federal agency

for conciliation or mediation. Although this brings the assistance and prestige of experienced negotiators into the proceedings, it does not automatically provide a decision which must be accepted.

Arbitration Procedure

Unadjusted disputes which arise under the agreement may be referred to arbitration, as a rule, upon the request of either party. Usually any question may be referred to arbitration, but in a few cases the reference is restricted to discharge cases or other specific matters.

The arbitrators hold hearings and take testimony and occasionally make independent investigations of the facts. Some agreements provide for a decision by default if either party fails to nominate its representatives on the arbitration committee or refuses to cooperate with the arbitrators. In order to avoid unnecessary delays, time limits are generally set for each step in the process of referring the dispute to arbitration—the selection of arbitrators, the conduct of hearings, and the rendering of decisions.

The decision of the arbitration board is, in most agreements, accepted as final and binding on both parties to the dispute. Enforcement of the decision of the arbitrator may be secured through resort to the strike or lock-out, noncompliance being the only occasion when stoppages of work are not considered a violation of the agreement. Arbitrators' decisions have occasionally been taken to the courts for enforcement. Whenever the agreement is with an employers' association, the association officials are held responsible for the compliance of member companies.

Discharge Cases

Many agreements provide a special procedure to hasten the adjustment of discharge cases. Time limits on procedure are more frequently specified for settling discharge cases than for other grievances. In some cases, if the union does not appeal the discharge within a certain time, the company has the right to refuse to reconsider the action. Under other agreements, the discharge may remain in negotiation only for a specified time. If the discharge is not settled within the time limit, the case must go immediately to arbitration.

A number of provisions may be included in the agreement, to facilitate negotiations. The company may be obliged to furnish reasons for the discharge in writing to the union or the worker concerned. In order to provide time for negotiations before the worker goes off the pay roll, advance notice of the discharge—usually 1 week—is sometimes required. Occasionally, as in the case of printers, the discharge does not become effective until the union has investigated the matter and, if protested by the union, only after the case has been settled by arbitration.

When there is provision for meetings at fixed times between the union and management for settling ordinary grievances, special meetings for handling discharges may be required at the request of either party. An agreement may provide that some part of the usual grievance procedure may be omitted in discharge cases. Some or all of the steps in joint negotiations may be eliminated, with more direct resort to impartial arbitration. Discharge cases at times take precedence over others in hearings before arbitrators.

Reinstatement with back pay after an unjustified discharge is the common practice. Occasionally, there is a limitation on the amount of back pay the worker may receive.

Fines and Penalties

Employers and unions generally rely, for enforcement of the agreement and arbitration awards, upon methods other than the imposition of fines and penalties. The occurrence of such unusual provisions in union agreements may be explained by conditions peculiar to the industry or by difficulties in maintaining the collective-bargaining relationship.

Some industries, such as clothing manufacture, may be characterized by instability. In such case, in order to protect its members, the union may obtain a provision in the agreement requiring the employer to deposit a specified amount which will be forfeited if the agreement is violated. Where severe competition encourages wage cutting, as in the millinery industry, the agreement may provide for payment of damages to recompense the workers who have suffered wage cuts and to offset any competitive advantage an employer may have secured through the violation. In other cases, after the employer has failed to live up to the terms of the agreement, a bond may be required in order to discourage future violations.

Penalties may also take the form of depriving the employer of certain privileges received under the agreement. Union labor may be withheld until the employer has ceased the violation or compensated for it in some prescribed manner. When the union label or union-shop card is widely used, as in bakeries, barber shops, and the printing trades, the union is authorized to withdraw the use of the label or card when violations occur.

When the employers are organized into an association, the association has an interest in securing uniform compliance with the agreement in order to standardize labor costs. The association, therefore, may require compliance from its members on penalty of expulsion or may establish fines for violations.

Fines or penalties for violations by employees are seldom mentioned in agreements, since employers have recourse to other disciplinary measures. If it is shown that an employee is guilty, neither the union nor the arbitrator would intervene concerning his demotion, lay-off, or even discharge. A few agreements, however, do provide fixed monetary or other penalties for certain infractions. For example, the agreement or the arbitration award may require that lost time be made up when provisions such as those prohibiting stoppage of work are violated.



Seniority Provisions in Union Agreements ¹

Seniority is the principle of granting employees preference in certain phases of employment in accordance with length of service. The principal aim of a seniority program is to afford the maximum security and reward to those who have rendered longest service. Also,

¹ From Monthly Labor Review for May 1941.

a definitely established seniority program provides an objective standard of selection, thus eliminating favoritism and discrimination in various phases of the employment relation.

Seniority early became a major issue among the skilled workers on the railroads, where employment tenure was broken up by frequent transfers and lay-offs caused by consolidation and technological improvements. To overcome complaints of favoritism and discrimination, one of the first demands of the unions, after collective bargaining was established, was the institution of a system of straight seniority in transfer, lay-off, and promotion. The printing-trades unions also were among the first to urge the recognition of seniority, and "priority rights" were adopted whenever the unions became strongly established. One effect of seniority in these trades was to reduce greatly the number of itinerant craftsmen.

The growth of mass-production industries and increased union organization has made the question of seniority one of the dominant issues in industrial relations. In these industries seasonal fluctuations in production mean frequent lay-offs. Since the great majority of the jobs are semiskilled or unskilled, most of the workers can be easily replaced, thus increasing the feeling of insecurity. The emphasis on youth and speed in these industries also has tended to cause a feeling of uncertainty of tenure on the part of the older workers.

There are a few industries which, although extensively organized, are marked by an almost complete absence of seniority provisions in their union agreements. These, in general, are highly seasonal industries, such as building construction, clothing, and coal mining. Since such a large part of the working force is affected at one time by slack work, most unions in these industries prefer work sharing to lay-offs based on seniority. In some of these industries reliance for job protection is upon the union office or hiring hall rather than upon negotiated seniority rules with employers. The union in such cases carries out a modified seniority program by assigning new jobs to those who have been unemployed for the longest period. In some hiring halls both "regular" and "extra" lists are maintained, with employment preference given to those on the "regular" list.

Even where rotation of work or work sharing has been accepted in place of a seniority program, seniority is sometimes resorted to in special situations; for example, when there are large permanent reductions in staff resulting from technological changes or other reasons. Similarly, where rigid seniority rules for lay-offs are in effect, during a period of widespread unemployment these rules may be modified to provide for a more or less equal distribution of available work among all employees or among all employees with a specified length of service.

The application of a seniority program raises difficult questions both for the employer and the union. Some of the questions raised are: The area upon which seniority rights shall be based—whether plant, department, or occupational unit; the result of displacing junior employees who are both competent on the job and loyal union members; and the degree to which competence and ability should be considered along with seniority.

In spite of these very real problems, both employers and unions have found that the recognition of seniority has distinct advantages:

It prevents discriminatory firing as well as favoritism in promotions. It reduces the number of voluntary quits, since a worker not only hesitates to lose accumulated seniority but also finds it harder to secure employment in another plant where workers have established seniority rights. Although seniority does not eliminate the hazards of unemployment during seasonal declines or cyclical depressions a measure of job security is obtained. Since a large portion of the working force has reasonable assurance of reemployment at the end of short lay-off periods, they are relieved of the necessity of seeking employment elsewhere. Employers thereby have assurance that a large proportion of their experienced workers will return as soon as business improves. Of major importance is the improved morale resulting from an orderly procedure, carefully planned in advance, and known to all concerned.



Enforcement Clauses in Union Agreements¹

The enforcement of union agreements depends upon the good faith and mutual cooperation of the parties concerned, since in the United States the problem of enforcing agreement provisions has rarely been taken before the courts. In union agreements certain working conditions are provided for and mutual rights and duties are established. In order to insure stability and orderly process in industrial relations, it is usually provided in addition that the employer will not lock out his workers and that the employees will not strike during the life of the agreement. In some cases these rights are waived only as long as the provisions of the agreement are being carried out. In either case, however, provision is usually made for arbitration of the disputes which are likely to arise in the day-to-day functioning under the agreement. These disputes may concern differences over interpretation of the agreement or new circumstances not foreseen at the time the agreement was signed.

A few agreements provide a system of fines and penalties for violations by either party. These are most common in the clothing trades where the unions have faced serious problems in connection with "runaway" shops and the jobber-contractor relationships. Occasionally, in other industries and trades, there is provision for specific penalties in case of violations by the employer, the employee, or both.

Prohibition of Strikes and Lock-Outs

In addition to a general expression of mutual intent to abide by the terms of the agreement, quite frequently there is a specific provision that there shall be no strike nor lock-out during the life of the agreement. In some cases the promise not to suspend work is modified by a provision that all means of settling controversies specified in the agreement shall be exhausted before a strike or lock-out is instituted.

Some agreements between unions and employers' associations outline in detail the specific obligations of both parties in disciplining their own members for violations of the no-stoppage clause.

¹ From Monthly Labor Review, April 1940 (p. 849).

Arbitration

If the procedure established for settling grievances includes reference to arbitration, an automatic method is provided for securing enforcement of the agreement. Most union agreements provide for some kind of arbitration. Under those agreements establishing an arbitration committee or an impartial chairman to function throughout the life of the agreement, arbitration becomes a much more effective method of enforcement than in the agreements providing for the creation of the arbitration committee only after the dispute occurs.

Fines and Penalties

Employers and unions generally rely for enforcement upon methods other than the imposition of fines and penalties. Where the latter are resorted to, they may be explained by conditions peculiar to the industry or by recent difficulties in maintaining the collective-bargaining relationship.

Thus, some industries, such as clothing manufacture, may be characterized by instability. The small investment required and the highly seasonal nature of the operations, make it possible for a shop to close down and reopen elsewhere if the employer desires to avoid the terms of the agreement. In order to protect its members, therefore, the union may obtain a provision in the agreement requiring the employer to deposit a specified amount which will be forfeited if the agreement is violated.

Where severe competition encourages wage cutting, as in the millinery industry, the agreement may provide for payment of damages to recompense the workers who have suffered wage cuts and to offset any competitive advantage an employer may have obtained through the violation. In other cases, if the employer has failed to live up to the terms of the agreement, a bond may be required in order to discourage future violations.

Some provisions specify the amount of the fine which will be considered fair compensation if either the union or the company violates the agreement. The union or individual employees may also be required to pay fines for violations of provisions such as those prohibiting stoppage of work. More frequently, the agreement or the arbitration award may require that the lost time be made up, or, in extreme cases, that the workers involved be suspended or discharged.

Penalties may also take the form of depriving the employer of certain privileges received under the agreement. Union labor may be withheld until the employer has ceased the violation or compensated for it in some prescribed manner. When the union label or shop card is widely used, as in the printing trades, the union is authorized to withdraw the use of the label or card when violations occur.

Aids to Enforcement

Union agreements sometimes contain provisions designed to aid unions in obtaining adequate information in order to facilitate checking up on the employer's compliance with the agreement. Some agree-

ments grant union representatives access to the plant for checking on compliance. In others it is provided that pay rolls and other personnel records may be examined by representatives of the union or, in some cases, by accountants hired by the union. Then, too, advance notice of discharge or lay-off may be required in order to give the union adequate time for checking to see if the provisions of the agreement have been carried out.



Wage-Adjustment Provisions in Union Agreements ¹

Very infrequently do union agreements in the United States have provisions for the adjustment of general wage rates during the life of the agreement. About 95 percent of the agreements on file with the Bureau of Labor Statistics in 1940 made no provision for alteration of general wage rates, the wages specified being maintained throughout the time the agreement is in effect.

Unions have been reluctant to include in their agreements any automatic plans for the adjustment of wage levels. In some instances, unions have contended that employers offered a wage-adjustment formula as a substitute for an actual wage-increase provision in the agreement. The cost-of-living plans are frequently opposed as arrangements for keeping the purchasing power of wages at the same level; the plans which adjust wages to profits, gross revenues, or specified commodity prices are generally avoided by unions because of a fear that the workers will be forced to bear the brunt of depressed conditions or managerial inefficiency, and that living standards will be lowered.

Recent or expected changes in economic conditions, the purchasing power of wages, and the ability of the company to pay specified wages are, of course, taken into account when the wage terms to be included in an agreement are negotiated. Since most agreements remain in effect for a limited period, usually 1 year, it is considered that the agreed wages can continue during that period without working an undue hardship upon either party. Under ordinary circumstances, this is true. In a time of great uncertainty, especially as regards the probable trend of prices, an employer and union may seek means to meet any rapidly changing conditions which might occur before the expiration of their agreement.

The plans which have been used are of two general types—permissive and automatic. The permissive plans authorize the negotiation of new wage rates at stated intervals during the life of the agreement, or when either party can demonstrate a significant change in such factors as general economic conditions, cost of living, or prevailing wages. The automatic plans make compulsory a wage change as cost of living, prices of given commodities, or profits fluctuate. Both the permissive and the automatic plans may protect existing wage standards by authorizing pay increases only or by prohibiting decreases below the wage level negotiated at the time the agreement was signed.

¹ From *Monthly Labor Review*, January 1940 (p. 6).

Permissive Wage-Adjustment Plans

Fewer than 5 percent of the agreements on file with the Bureau of Labor Statistics contain permissive wage-adjustment provisions. In the agreements of the American Federation of Hosiery Workers and the United Shoe Workers, this type of provision is commonly used. In recent years the Textile Workers' Union, the United Furniture Workers, and the International Ladies' Garment Workers Union also have made frequent use of such provisions.

Wage adjustments, as well as changes in other provisions, are possible, of course, in any agreement with an indefinite term, since such agreements are reopened upon a stated period of notice by either party. Agreements which are to remain in effect for several years sometimes require new wage negotiations annually. Some agreements provide for a review of the wage rates at shorter intervals, usually every 3 or 6 months. More frequently, however, either party is given the right to reopen the question of wage rates whenever it can be established to the satisfaction of both parties that general economic conditions or any of a number of specified matters justify wage readjustments.

A change in the cost of living is the factor most commonly specified as a cause for reopening the wage question. Cost-of-living adjustment provisions, in times such as the present when the European war has led to a general expectancy of price increases, most frequently grant the union the right to reopen wages in order to negotiate an increase. A few agreements now in effect permit either party to propose wage negotiations in case of changes in the price of a commodity produced, thus making both wage cuts and wage increases possible under the terms of the agreement.

Automatic Wage-Adjustment Plans

The reluctance with which unions enter into automatic wage-adjustment plans undoubtedly accounts for the very few examples found. Of the industries for which the Bureau of Labor Statistics has agreements on file, the only one in which automatic pay plans are characteristic is nonferrous metal mining and smelting.

Plans based on cost of living.—In the case of automatic adjustments in the purchasing power of wages, the purpose is to maintain at a fixed level the amount of goods and services the wages will buy. This is effected by gearing wages to a cost-of-living index. If wage rates are keyed to cost of living, then "real wages"—the amount of goods and services which the worker can buy—remain the same. Unions contend that, if wage increases merely keep up with the cost of living, the workers will be deprived of their share in the returns of increased production and lower costs made possible by machine and process improvement.

It should be noted that these provisions which automatically tie wages to a cost-of-living index do not eliminate all fluctuations in real wages, since at best the wage change can be made retroactive only to the date for which the index was computed and not to the exact time of the changes in cost of living. A retroactive provision creates con-

siderable difficulties. If the index has risen sharply, the payment of back wages may be difficult for the company to meet. If the index has fallen, there is the problem of collecting from the workers a proportion of the wages already received and spent. From the practical point of view it is virtually impossible to avoid the lag in real wages brought about by dating the wage adjustments from the date of publication of the index.

In addition, the question of how well the index measures actual changes in the cost of living of a specific group of workers in a given locality must be carefully studied. The Bureau of Labor Statistics index indicates price changes in 32 cities. This index is based on living costs of a family with an annual income of \$1,500. Workers with lower incomes will find their living costs rising faster than this index if food prices are going up more rapidly than the prices of other items, because a larger proportion of their income goes to buy food.

The automatic plans are likely to meet further objections from organized labor if the agreement provides for decreases as well as increases in wage rates, since workers are inclined to view any reduction in money wages as a setback. An automatic plan least objectionable to workers is one which permits automatic increases in wage rates as the cost-of-living index changes by a specified amount, but does not permit reductions in wage rates.

Plans based on prevailing wages.—In some instances the wage rates in a particular plant are to be changed automatically as changes occur in the prevailing wage in an industry or area. The following provision from the men's clothing industry would apply changes negotiated with the employers' association in the metropolitan area to the wages in this company, which signed a separate agreement with the union: "If any change should take place in the market in regard to wage standards, it is understood that such change will apply to this agreement."

Plans based on price of product.—In the automatic plans which gear wages to the prices of specified commodities or to the amount of profits, the purpose is not to maintain purchasing power at a fixed level but to regulate wages according to the company's ability to pay. Since high prices do not necessarily mean high profits, and vice versa, there is considerable question concerning the accuracy of measuring a company's ability to pay by the prices of the product produced. Differences in accounting methods also would produce differences in the amount of profits shown on the books, leading perhaps to a discrepancy between indicated profits and the company's ability to pay.

Plans for the automatic adjustment of wages to the price of the commodity produced are rare except in nonferrous metal mining and smelting. Most of these agreements provide for wage increases and decreases as the prices change, but specify a minimum rate below which wages cannot fall during the life of the agreement. An example of this is the agreement between the Anaconda Copper Mining Co. and the International Union of Mine, Mill and Smelter Workers. Although this agreement ties wages to the price of one metal, some of the agreements in this industry base wage adjustments on the prices of the several metals produced at the same mines.

Plans based on profits.—Plans providing additional wage payments if profits reach a certain amount are seldom found in union agreements. Most of the profit-sharing plans now in effect in American industry are in unorganized plants.

One of the few agreements on file with the Bureau of Labor Statistics which contains a detailed profit-sharing plan covers the employees of a chain of automobile service stations. The company pays to not more than 7 employees in each station a bonus equal to 12 percent of the total net profits of that station in which they are employed. The share which each employee receives is specified, the managers receiving the largest amounts.

Another type of such provision guarantees an increase in wages if the company has earned a given percentage of the gross volume of sales during the first few months of the agreement. An agreement covering a city passenger-transportation system grants an automatic increase if gross revenues reach a certain level.



LABOR RELATIONS BOARDS

Activities of National Labor Relations Board, 1939-40 ¹

The duties of the National Labor Relations Board are of two general types: (a) To prevent employers engaged in interstate commerce from engaging in any of the unfair labor practices listed under the National Labor Relations Act, and (b) to settle controversies with respect to representation of employees and to certify the name of the employee organization which shall represent the workers. The following summary of its activities during the fiscal year ended June 30, 1940, is indicative of the character of the Board's work.

During the fiscal year ending June 30, 1940, the National Labor Relations Board disposed of 7,354 cases involving 1,488,020 workers. In about 38 percent of the cases closed, settlements were obtained informally through the cooperation of the employer, the union, and agents of the Board; about 17 percent of the cases were dismissed by regional directors after investigation revealed that further proceedings were unwarranted; and in about 28 percent of the cases the parties withdrew their petitions. In only about 17 percent of the cases closed were formal proceedings before the Board necessary.

Cases Involving Unfair Labor Practices

Altogether, 4,664 cases, involving 870,000 workers, pertaining to unfair labor practices, were handled by the Board. Hearings were necessary in only 255 of these cases. Approximately 31,000 workers were reinstated during the year after discrimination because of union membership or after strikes in protest against alleged violation of the act. Approximately 4,800 workers received back-pay awards amounting to a total of \$650,000. Other forms of remedy included the posting of 1,000 notices by employers agreeing to cease interfering with

¹ Data are from National Labor Relations Board, Fifth Annual Report, for fiscal year ended June 30, 1940, Washington, 1941.

labor organization, the disestablishment of 220 company-dominated unions, the agreement to bargain collectively in 880 cases, and the signing of written agreements in 600 cases.

Representation Cases

Representation cases closed during the year totaled 2,690. Of these, 1,264 were A. F. of L., and 1,004 were C. I. O. cases, 366 were cases of unaffiliated unions, and 56 were employer petitions.

Of the total number of representation cases, 73 percent were closed before the initiation of formal proceedings, through consent elections, voluntary recognition of representatives on the part of employers, or pay-roll checks to establish bargaining representation.

The Board conducted a total of 1,192 elections during the year; 676 of these were with the consent of both unions and employers and 516 upon Board direction. More than 90 percent of the 590,000 workers eligible to vote in these elections cast their ballots. Of the valid votes cast, 70 percent were cast for A. F. of L. or C. I. O. affiliates, 3 percent were cast for national unaffiliated unions, 9 percent for local unaffiliated unions, and 18 percent against any or all unions appearing on the ballot.

A. F. of L. unions appeared in 734 elections in which 340,000 valid votes were cast for the Federation affiliates. C. I. O. unions appeared in 692 elections in which they secured 447,000 votes. Unaffiliated national unions appeared in 115 elections in which they secured 37,000 votes. Unaffiliated local unions appeared in 134 elections in which 93,000 valid votes were cast in their favor.

*Number of elections participated in, won, and lost during the fiscal year 1939-40 by different types of labor organizations*¹

Type of union	Elections in which union participated		Elections won				Elections lost			
	Number	Valid votes cast	Number	Per- cent of total in which union partici- pated	Valid votes cast		Number	Per- cent of total in which union partici- pated	Valid votes cast	
					Number	Per- cent of total cast			Number	Per- cent of total cast
A. F. of L. affiliates.....	734	343,439	386	52.59	70,700	20.59	348	47.41	272,739	79.41
C. I. O. affiliates.....	692	447,236	407	58.82	313,852	70.18	285	41.18	133,384	29.82
Unaffiliated national unions.....	115	37,043	45	39.13	9,499	25.64	70	60.87	27,544	74.36
Unaffiliated local unions...	134	93,170	83	61.94	63,697	68.37	51	38.06	29,473	31.63

¹ Includes only those elections which were won by some form of labor organization.



New York and Massachusetts Labor Relations Boards¹

During the legislative sessions of 1937, five States (Massachusetts, New York, Pennsylvania, Utah, and Wisconsin) enacted labor relations laws which more or less followed the pattern of the National

¹ Summary of article in March 1940 issue of the Monthly Labor Review.

Labor Relations Act.² During the legislative sessions in 1939 two of these States (Wisconsin and Pennsylvania) made drastic changes in their laws as well as in the personnel of their boards. For months preceding the passage of the new acts the old boards were virtually inactive, holding few representation elections or hearings on unfair labor practices. Because of this inactivity during a large portion of the year, data on Wisconsin and Pennsylvania are not included in this summary of elections held by State labor relations boards. Although the Utah Labor Relations Act underwent no changes, the State board reports that it held no elections during the year. Massachusetts and New York are the only States, therefore, in which active labor relations boards were functioning throughout the year ending June 30, 1939.

Massachusetts

The first election by the Massachusetts Labor Relations Commission was held in January 1938. During the 18-month period ending June 30, 1939, the board held 110 elections. Some type of labor organization was successful in gaining a majority of the votes in 79 of these elections; in 31 no union was certified.

Affiliates of the American Federation of Labor participated in 82 of the elections, in 55 of which they obtained majorities, and were thereupon certified by the Board as the representative agency for the appropriate unit of employees. Congress of Industrial Organizations unions were participants in 8 elections, 6 of which they won. Unaffiliated unions gained a majority in 18 of the 20 elections in which they participated. In 3 elections there were two contesting A. F. of L. unions; in 8 elections A. F. of L. unions competed with nonaffiliated unions. In the latter the A. F. of L. unions won twice.

The greatest number of elections (18) took place among automobile salesmen, the second highest (16) being among building-service employees. Hotel and restaurant workers were involved in 12 elections, as were also taxi and truck drivers. Eight elections were held among retail clerks and 6 among theatrical-service employees. The remainder of the workers were in meat and grocery stores, bakeries, laundries, etc.

New York³

Certifications for 481 bargaining units were issued by the New York State Labor Relations Board during its first 2 years of operation from July 1, 1937, to June 30, 1939. These certifications involved approximately 67,800 workers. In 70 additional units elections were held but no labor organization received a majority of the votes, and a certification was, therefore, not made. The total number of representation cases handled by the Board (551) involved about 78,725 employees. In 292 instances the certifications were based on comparison of employees' signatures on union membership cards with signatures on employer pay rolls, and in 189 cases formal elections were held. Almost 87 percent of the employees eligible to vote in the elections actually cast ballots.

²For an analysis of these laws, together with a summary of the elections held by the five State boards during their first year of operation, see *Monthly Labor Review*, February 1939.

³New York. Labor Relations Board. Elections and certifications of labor organizations conducted by New York State Labor Relations Board, July 1, 1937, to June 30, 1939, by Louis Goldberg, New York City, 1939.

Employer petitions.—The New York act is unique among the labor relations acts in that employers are allowed to file petitions in representation disputes. The provisions of the act are different, however, as between employee and employer petitions. In employee petitions the statute provides that when an employee or his representative alleges that a controversy exists, the board “shall” investigate the matter, whereas it merely provides that the board “may” investigate the matter if an employer makes the application. Again, in the employee-petition cases, the board may certify accepted representatives at once, after investigation, if a labor organization requests investigation of a controversy; but when an employer reports an alleged controversy in a petition the board must hold a formal hearing before acting. The act also contains the provision that “no election shall be directed by the board solely because of the request of an employer or of employees prompted thereto by their employer.”

Only 85 petitions were filed by employers, of a total of 2,581 representation petitions filed with the board. Of these, 52 were situations in which 2 or more organizations were competing. There were 33 petitions filed by employers which involved only a single union. The board took formal action in only 12 of the employer petitions, the majority being settled informally or withdrawn before formal action began.

Industries involved.—Of the total number of elections and comparison cases combined, 190 were in service industries such as hotels, restaurants, laundries, automobile service, etc., 167 were among service employees in office and apartment buildings, 74 in retail trade, 54 in manufacturing, 44 in transportation, 10 among employees in architects' offices and private hospitals (professional service), 7 in utilities, 3 in insurance, and 1 each among crushed-stone production workers and janitorial employees in public schools. Of the 78,725 workers involved in these cases, 47.5 percent were in the various service industries, 22.9 percent in transportation, and 20.1 percent in retail establishments.

The best results for A. F. of L. unions were attained among workers in office and apartment buildings, public schools, hotels, restaurants, and small retail establishments. C. I. O. unions were most successful in larger bargaining units in laundries, insurance, and retail trade. In transportation, the employees were about equally divided in choosing between the C. I. O. and nonaffiliated unions.



Workers' Attitudes Toward Work-Sharing and Lay-Off Policies¹

The problem of designing and carrying out a lay-off policy satisfactory both to workers and to management has recently been given increasing attention. Yet neither employers nor trade-union leaders are in agreement as to the best policy to follow.² Moreover, while various compilations have been made which show the different types

¹ Abstract of an article by W. Rupert MacAurin, director, Industrial Relations Section, Massachusetts Institute of Technology, in the Monthly Labor Review for January 1933.

² For a recent summary of lay-off policies in different industries see The Seniority Principle in Employment Relations, Industrial Relations Section, Princeton University, May 1938.

of curtailment policy used by industry,³ none of these reveals how these policies are regarded by the workers.

This article is based on the tested attitudes of a group of workers in a unionized shop as to the method that should be followed in making lay-offs. The workers studied were employed in two plants of a large manufacturing firm, referred to hereafter as the "X company." The employees in these two plants are in the main semi-skilled or skilled native American workers of a high level of intelligence. About one-third of the "hourly rated" working force of 7,000 was laid off between October 1937 and July 1938. Data on the attitudes of the workers toward the policy followed in making lay-offs were available through a series of votes on curtailment policy which were taken under the auspices of the union. In addition, use was made of a questionnaire distributed among selected union members and checked by extensive interviews with the union representatives in the two plants.

The two plants of the X company presented a particularly favorable opportunity to discover the preference of workers in regard to curtailment methods where no rigid lay-off rule had been adopted. Neither the management nor the union had attempted by means of propaganda to advocate any set policy for lay-offs. Both sides had repeatedly stated that the ideal policy should give weight to a combination of factors.

Union-Management Relationship in Company Studied

From 1918 to 1934 the plants had operated under an employee-representation plan. In 1934, however, at an election supervised by the Regional Labor Board the employees voted in a proportion of two to one in favor of joining a newly organized union. In 1936 the new union helped to form a national union, which shortly thereafter affiliated with the C. I. O. By October 1937, the X company local reported that over 90 percent of the hourly rated employees in the two plants were dues-paying members. Although relations between the new union and the management were somewhat strained at first, they have settled down to an amicable working arrangement.

Procedure Followed in Lay-Offs

The lay-offs of hourly rated workers in the main plant during the year October 1937 to September 1938, by length of service, are given below and compared with the number of hourly workers on the pay roll as of September 30, 1937.⁴

	<i>Hourly rated workers, Sept. 30, 1937</i>	<i>Hourly rated workers laid off</i>
Under 1 year's service-----	1, 314	976
1 to 2 years' service-----	967	784
2 to 3 years' service-----	95	55
3 to 4 years' service-----	29	9
4 to 5 years' service-----	45	15
5 to 10 years' service-----	323	57
10 years' service and over-----	2, 465	43
Total-----	5, 238	1, 939

³ E. g., National Industrial Conference Board, *Lay-off and Its Prevention, 1930, and Curtailment, Lay-off Policy and Seniority*, January 1938.

⁴ The lowest point for the main plant's pay roll was reached on September 3, 1938. By September 30, when these figures were compiled, 168 workers had been rehired.

It is apparent from these figures that, in practice, length of service was given the greatest weight in making lay-offs.⁵ In most departments it required very exceptional ability or exceptional need on the part of a short-service worker to counterbalance 2 additional years of service on the part of an alternate for lay-off. The men with over 5 years' service were retained rather than the men having less than 5 years' service, and the men with over 10 years' service were only in very rare circumstances laid off instead of men with less than 10 years' service. On this point the management's unofficial position was that, if a man had been retained more than 5 years, it was the fault of the department if there was any question about his ability, and it must pay the price of retaining him unless, of course, he was flagrantly inefficient.

The Workers' Attitudes

In order to find out what the workers thought about the company's lay-off policy and the union's role in determining that policy, a tentative questionnaire was submitted to the union councilmen and to several officials of the company. In revised form, it was then (February 1938) mailed to every third person on the alphabetical list of union members. As the names of the workers who had been laid off remained on the regular union membership list, the questionnaire reached a sample of both those in the plant and those laid off. The most significant answers to the questionnaire, from the 550 workers whose answers were analyzed, were as follows.

The principal conclusions from this questionnaire may be summarized as follows:

1. In general the workers endorsed the company's flexible policy on lay-offs. Although there was a tendency to weight seniority more heavily than need and ability, it was not very pronounced.⁶

2. Practically all the workers wanted some consideration given to need.

3. On lay-off decisions involving a choice between a single girl and a married woman with a husband working, there was a considerable opinion in favor of laying off the married woman, more or less regardless of seniority. Even among the men and women whose families would have been affected by such a decision there was a definite sentiment in favor of laying off the married women.

4. The workers did not believe that ability should be weighted as heavily as either seniority or need. This position was clarified somewhat by the interviews that were used to supplement the questionnaire. The workers generally agreed that it was perfectly fair to retain a short-service worker of exceptional ability in preference to a somewhat longer-service worker with less ability. There was a

⁵ Of the 100 hourly rated workers laid off with more than 5 years' service, 40 were married women with husbands working. We inquired from both the union and the company into the circumstances of a substantial number of the remaining 60 cases. Most of these workers were laid off because they lacked versatility and no other place could be found for them. The two plants of the X company have many specialized operations which makes the problem of transfer particularly difficult.

⁶ The long-service workers tended to place somewhat greater emphasis on seniority and the workers with a number of dependents to place greater emphasis on need. This tendency, however, was not so pronounced as might have been expected. It was more evident among those with long service than among those with many dependents. The workers with less than 1 year's service and those with 1 to 6 years' service showed very similar attitudes on the average. They tended to weight both need and ability, respectively, slightly more heavily than seniority. The workers with 6 to 10 years' service and those with more than 10 years' service tended to weight seniority more heavily than either need or ability. In all 4 groups there was a tendency to give need slightly greater weight than ability.

widespread feeling, however, that the foreman did not judge ability fairly and if given much latitude would use ability ratings to play favorites. This feeling was also expressed in some of the comments written by the union councilmen on the questionnaires:

Your ability is according to how the boss likes you.

Favoritism is being shown where it can be covered up by the ability pretense.

Too controversial.

The union has no opportunity to judge on ability.

5. Analysis of the answers to the questionnaire according to the length of service of the respondents showed that, even among workers with more than 10 years' service, 90 percent favored sharing the work to some extent before any lay-offs were made.

6. Two-thirds of the workers did not want the union alone to control lay-offs.

7. Although the majority of the workers did not believe that much favoritism had been shown in selecting men for lay-off, one worker out of every four believed that favoritism had been shown "often" in recent lay-offs. A careful examination of a large number of individual lay-off cases in the plant, however, indicated that favoritism had been exercised very much less than the workers believed. Therefore, if this vote is typical of workers' attitudes it is extremely difficult to make all workers believe that favoritism is not an important factor in lay-off decisions.

Points for Consideration in Formulation of Lay-Off Policy

In drawing any conclusions from this article it should be stressed again that the evidence is based on opinions of a particular group of workers in a particular situation. Under different circumstances this same group of workers might have expressed entirely different opinions. However, the X company study suggests that a lay-off policy which allows considerable latitude in interpreting the circumstances surrounding each case may be preferable to any rigid rule. From the worker's standpoint the advantage of a rigid seniority rule is that it is not subject to interpretation and therefore provides protection against favoritism or discrimination. But this study indicates that, at least in cases where a union is strong and is dealing with a trustworthy management, it is not necessary to adopt such a rule in order to prevent discrimination and to give workers an equity in their jobs.

The present study also shows that among certain groups of workers there is a strong feeling that "need" should be taken into consideration in lay-offs. Yet to obtain an accurate basis for weighing need virtually requires a day-to-day picture of the number of each worker's family, their ages, income, and present employment. In one X company case a woman (threatened with lay-off because her husband was working, continued to deny categorically that she was married even when confronted with a copy of her marriage certificate obtained from the city hall. In many large concerns it may be impossible to get a reasonably accurate picture of these facts for all the employees. That it was possible at all in as large an organization as the main plant of the X company was due to a number of factors. The plant is located in a stable community and the voluntary turn-

over of employees has been very small for a good many years. Most of the workers live in the town and frequently several members of the family are employed by the company. In most cases, therefore, both the foreman and the union councilmen have a fair knowledge of the home conditions of the workers whom they represent.

One of the most controversial problems arising out of an attempt to give weight to need is the question of how to handle the cases of married women whose husbands are working. The situation changes frequently. There were a number of X company cases in which the husband was working in another industry and had been laid off four or five different times by various concerns in the course of 2 years of depression. The management had to make certain in such cases that the married woman was really in a better situation than the single girl or the widow who might be alternative choices for a lay-off.

It was the workers themselves rather than the management or the union officers who were insistent that the married women with husbands working be laid off rather than the single girls. There was a strong social feeling in the factory that the married women whose husbands were working belonged at home. Whether logical or not, this feeling existed and had to be faced.

One other attitude of the X company workers that is of considerable significance was the widespread desire for work sharing. Not only was this indicated in the answers to the questionnaire in which 97 percent favored some form of "share the work" policy, but the ballot already analyzed of the first-floor workers in one of the large manufacturing departments also went surprisingly far in favoring work sharing. And although these workers reversed their decision in July, when hours had fallen to 22, there was little evidence in the interviews to indicate that they would not repeat the earlier vote in similar circumstances. Still further evidence of the desire for work sharing was obtained from a vote that was taken under the auspices of the union on a proposed lay-off in one of the departments of the smaller plant. This particular group voted 45 to 28 in favor of sharing hours to 24 a week in order to avoid any lay-off whatsoever—a decision which involved sharing work with apprentices of less than a year's service.



Changing Attitudes of Management Toward Labor ¹

One means of learning the general status of the employer-employee relationship at a given time is through the subjects discussed at employers' conferences. Such gatherings reveal not only the general industrial and economic situation but also employers' reaction to governmental and organized labor activity. During the 1920's, for instance, when the Government was relatively silent on matters concerning employer-employee relations and organized labor was not expanding, management representatives devoted most of their group

¹ From an article on Industrial Relations in 1938, by Florence Peterson of the Bureau of Labor Statistics, in the March 1939 Monthly Labor Review, with later data.

discussions to such matters as labor turn-over, wage-incentive plans, production control, etc.

When, in 1933, the Government began to show an active concern in the condition of labor, and labor itself showed a disposition to expand its area of influence, employers were faced with new problems. To some employers it seemed a throw-back to war times, when the Government and war labor boards encouraged collective bargaining and set up minimum standards of working conditions. These employers hoped and expected that, as in the war period, the new legislation and labor activity would be temporary and therefore no fundamental changes in management policy would be necessary. Thus, in employers' conferences during 1933-36 there was a good deal of discussion pointing to the unconstitutionality of the National Labor Relations Act, the Social Security Act, and other social legislation.

Some employers maintained, on the other hand, that the very passage of such acts revealed certain weaknesses in industry which it was their job to correct, even though the specific legislation should be changed or annulled. They urged a closer personal relationship between employer and employees. They said the workers should be educated in the fundamentals of the business—"if management talks directly with its men, it will not be necessary for them to turn to outside labor leaders." Foremen should be better trained in personnel dealing—"if grievances are handled promptly there is no need for trade-unions." They advocated improvement in wage-incentive plans and the maintenance of wage differentials—"the American worker is an individualist who is only mildly interested in collective bargaining."

Much stress was laid on the advantages of the employee plant committees or employee-representation plans as an improvement over individual dealing and as a substitute for trade-unions. It was freely admitted that many employers had established such plans merely to give the appearance of conforming to the law. Such employers were criticized and a good deal of time was devoted to discussions on how the employer could make his employee-representation plan function.

Although the lines of discussion in employers' conferences necessarily altered when the Supreme Court validated the National Labor Relations Act in the spring of 1937, a change in attitude was not uniformly apparent. There was considerable agreement with speakers who reaffirmed the desirability of maintaining the traditional relationship between the employer and the individual employee—"let your employees feel that you are their natural leader and they will not turn to an outsider." There were expressions of resentment and rebellion—"no matter what the law and courts say, an employer must not condone outside interference with his business." Others, neither so discouraged nor so resentful, suggested that all that was needed was a change in the employee-representation plans; chiefly, a withdrawal of employer financial support and a substitution of employee committees for joint employer-employee committees.

As the months passed, the tone of management conferences somewhat changed. Instead of completely ignoring the existence of trade-unions, as was done in the 1920's, or mentioning them only with expressions of opposition, since 1938 there has been more disposition to accept the collective-bargaining situation and to take it for granted. Significant was one such conference in 1938, announced as "The Re-

construction Phase of the Employer-Employee Relationship" which gave as its keynote —

During the past year strikes and other labor disturbances have been frequent and severe. And yet, many leaders in industrial relations feel that industry has definitely entered the "reconstruction phase" in its relationship with workers—that out of the turmoil there has been evolved a set of principles which, admittedly still far from perfect, nevertheless mark out the way to industrial peace.²

Many of those responsible for labor relations in their various plants showed a real desire to learn how to fit their personnel policies within a collective-bargaining framework, even though some of the trade-union demands seemed to be in conflict with what formerly had been considered good personnel practice. For instance, in a discussion of seniority and lay-offs, one personnel manager indicated that his firm no longer used the depression period "to clean house by laying off the less efficient" because the unions were too seniority-minded and had objected. He conceded to the union that it was not fair to throw the less competent out of work during slack times when it was most difficult to get another job. In return he had obtained the support of the union for a continuous rating system, with allowance for individual discharges at the end of probational periods or periodic check-ups.

This willingness to adapt new patterns from old, to concede the right of workers to some voice in the making of employment policies, was not universal, however. As is to be expected in the early stages of any drastic change, recent years have witnessed many contrasts in the employer-employee relationship among the various industries as well as among plants within an industry. Some employers who have gone so far as to discuss matters with delegates of employees flatly refused to formalize the decision of such discussions in written form.

Even among employers who have signed written agreements there are many contrasts in method of dealing, based in large part on the degree of sincerity with which the employer has accepted the collective-bargaining relationship. In some instances where serious strikes have taken place and the employer has reluctantly signed an agreement, he is attempting by delay and other tactics to forestall any real collective bargaining in the day-to-day operation of the plant. In some of the larger companies, collective bargaining stopped when the top management and union officials had met on basic wage and hour schedules. No grievance or other employee committees were established, and the foremen continued to function as they had in the past. Contrasts are illustrated by the following instances.

A large company, as a result of a prolonged strike and the pressure of public opinion, had signed a union agreement. Department supervisors, however, were led to believe that this formal capitulation did not mean much and that they should make every effort to carry on as before. By the terms of the agreement the workers' committee could meet with the plant supervisor on a certain day each month. When, at such meetings, the employees' representatives brought up grievances and suggestions, the supervisor's reply was that all requests should be put in writing and he would submit them to the general manager. A few days or even weeks later a formal letter would reach the committee

² *Comerence* of the Personnel Division of the American Management Association, Chicago, February 1938.

explaining why the company could not accept the employees' requests. The committee could not even discuss the matter further until the next monthly meeting. Obviously, such a situation is not collective bargaining; it provides for no meeting around the conference table to discuss frankly the pros and cons of disputed issues. This company has experienced a number of strikes since the signing of its agreement.

In contrast is another large concern which throughout its history had vigorously fought trade-unions. In 1937 the management decided to reverse its position and to give collective bargaining a trial. An agreement was signed without the union calling a strike. Convinced that the management was sincere, most of the plant supervisors tried to adapt themselves to the new situation. In view of the fact that a good many of them had been appointed to supervisory positions as much for their antiunion attitude as for their knowledge and ability, this adjustment was no small task. The employees also realized that they had much to learn. In one plant of this company the union set up a "school" for the members of its grievance committees. Some of the foremen requested that they be allowed to attend. For the rest of the course, union committeemen and foremen voluntarily met several evenings a month to discuss techniques of settling disputes and grievances.

In general, it can be said that the years 1937 to 1940 have been a period of transition in management-employee relationship. In contrast to those firms which were continuing their belligerent opposition to any kind of collective bargaining, was an increasing number of employers who had accepted unionism and were making a sincere effort to adjust their personnel policies and methods to the new situation. Between these extremes were employers who felt that open antagonism was unwise but who hoped the current union activity was a passing phenomenon. These pursued different courses. Some gave a semblance of meeting the demands of their employees by going through the formality of signing a union agreement, but in one way or another set up barriers to any real day-to-day collective-bargaining relationship. Others made unusual efforts to improve plant working conditions and personnel policies with the hope that their employees gradually would lose interest in trade-unions.



Provisions for Management Efficiency in Dress-Industry Agreements¹

The manufacture of women's dresses is highly centralized in the New York metropolitan area, which includes an estimated 80 percent of the Nation's total production. In this area the industry is highly organized. The employees are members of various locals of the International Ladies' Garment Workers' Union, which are coordinated for bargaining purposes through the Joint Board of the Dress and Waist-makers' Union of Greater New York.

The dress manufacturers likewise deal collectively, through five associations representing the various types of shops. Thus there are separate organizations for the inside manufacturers and jobbers, and the contractors who manufacture for jobbers.

¹ From Monthly Labor Review for May 1941.

The jobbers and manufacturers are organized as the Affiliated Dress Manufacturers, Inc., the National Dress Manufacturers Assn., Inc., and the Popular Priced Dress Manufacturers Group, Inc., this last including only those who handle dresses which sell at wholesale for \$4.75 or less. The contractors are represented by the United Better Dress Manufacturers Assn., Inc., and the United Popular Dress Manufacturers Assn., Inc., the latter covering those handling dresses wholesaling at \$4.75 and below. Although each of these associations signs separately with the union, uniformity is maintained through joint negotiations and almost identical provisions in the agreements.

The dress agreements for 1941 cover some 2,100 employers (jobbers, inside manufacturers, and contractors) and 85,000 workers. These agreements were signed in February 1941 and extend for 3 years. The following is a summary of the outstanding features of the agreements.

Management Efficiency

During 1940 the union hired industrial engineers who made a study of dress production and concluded that there was much waste and inefficiency in the industry. As a result of this study, the union proposed and obtained a number of provisions designed to raise the level of efficiency.

The agreements provide that each association member "shall operate his shop at all times in an efficient and well-ordered manner." To improve the poor working conditions which have lowered efficiency in many shops, it is provided that shops are to be kept clean, properly lighted, and ventilated, and that adequate working space be provided for all workers. In addition, the union's study found that workers frequently had to stop work for lack of thread or other supplies. Since the workers are mostly paid on a piece-rate basis, these interruptions lowered earnings. To correct this situation, the agreements provide that there is to be a sufficient amount of supervision and adequate floor service to insure an uninterrupted flow of work.

To obtain compliance with these requirements, it is provided that the union and association shall draw up rules and regulations governing management efficiency. In case the union and association fail to agree, the matter is to be referred to the impartial chairman, who is given the authority to promulgate such rules and regulations.

Provision is also made in the agreements for the establishment of a special department to be attached to the office of the impartial chairman, and \$50,000 is set aside to cover the expenses involved. The function of this department is to advise employers on ways of attaining the standards of efficiency set forth in the agreement.

Sales Promotion

The union also made a study of the promotional possibilities of the New York dress market in order to bring greater continuity of employment and increased annual earnings to the workers. Its proposal was designed to stimulate dress sales and to establish New York as "the style center of the world."

The promotion campaign is to be conducted by a board composed of an equal number of representatives of the three associations of jobbers and manufacturers, together with the union representatives.

To defray the cost of the promotion program, \$1,000,000 is to be raised annually through the sale to the three associations of a label to be adopted by the board. The board is given the authority to determine the amount to be paid by each association member, dependent upon the annual volume of business and price range of garments manufactured. The contractors' associations have agreed that the label shall be attached to all garments manufactured in contract shops.

In addition to the \$1,000,000 to be raised from the sale of labels, the board established by the agreement is to "make an effort to raise an additional sum of \$500,000 annually from others having an interest in the welfare of the dress industry in New York." These include retailers, textile firms, producers of accessories, and real estate and banking interests. The union also has offered \$100,000 to the promotion drive on condition that the union label be featured.

Hours of Work and Overtime

Previous agreements set a 5-day, 35-hour week, with a 7-hour daily maximum. There could be only one shift a day and all overtime, except for sample makers, was expressly prohibited. The new dress agreements permit a 40-hour week under certain circumstances.

During the busy season all workers except the cutters may work not more than one additional hour per day during the first 5 days of the week, provided certain specified conditions are fulfilled. The employer's shops must have at least a full week's supply of work and, if additional workers are available, there must be no unused accommodations in the shops. The employer must notify the union in writing of the period during which overtime will be worked. Week workers receive time and a half for the hours worked beyond 7 a day or 35 a week, but the piece-rate workers—the greater proportion of the force—are to work these additional hours at their regular piece rates.

Setting of Piece Rates

Piece rates in the dress industry vary with each style of garment, and the rate structure is consequently very complicated. With many problems leading to severe competition and cutthroat bidding, the 1936 agreements established rate-settlement machinery to stabilize costs. This system is continued in the present agreements. Uniform piece rates are determined for the jobber and his contractors by direct settlement between the jobber and the union. The jobber settles with his contractors for a reasonable additional amount to be paid them for overhead and profits. Provision is made for the reference of unsettled rates to the impartial chairman, who maintains a technical staff to assist in the adjustment of the rate schedules.

Impartial Chairman

The agreements in the New York dress industry provide for the continuance of the office of impartial chairman. The impartial chairman has broad powers to administer the agreements and to settle controversies which may arise. In the current agreements, as in the preceding ones, he is the final authority for enforcement and can assess damages for violations of agreement provisions. In the new agreements the duties of the impartial chairman are enlarged to cover the important provisions dealing with management efficiency.

Oppressive Labor Practices: Summary of Senate Inquiry ¹

Violations of civil liberties unusually persistent and menacing have occurred in the field of labor relations. These violations have arisen principally from a labor relations policy hostile to the free organization of unions and collective bargaining with them. This policy has found expression most significantly in four ways: (1) The widespread use of labor spies by employers, particularly the industrial espionage services supplied by commercial detective agencies; (2) the use of strikebreakers, particularly those furnished by commercialized strikebreaking and strikeguard agencies; (3) the use of private police in the field of labor relations, often resulting in brutality, bloodshed, and the usurpation of public authority; and (4) the use of industrial munitions and the accumulation of large private arsenals in connection with labor disputes. These are the main findings of the Senate Committee on Education and Labor, through a subcommittee, commonly known as the Civil Liberties Committee, after extensive hearings and investigations beginning in 1936.²

Espionage

Previous to the hearings and investigations of the Senate Civil Liberties Committee, evidence of the work of undercover agents in spying on workers was fragmentary. Hearings held by the committee and the extensive documentary evidence collected by it revealed labor spying as a grave menace to the rights of workers to organize and to take advantage of the civil liberties granted by the Constitution. The committee found that the work of labor spies has been directed most significantly toward obtaining for employers information regarding employee interest in unions, and regarding the membership of labor organizations. Closely related has been the work of labor spies in obtaining information regarding the political or economic views or activities of employees or prospective employees and of the officials or members of labor organizations. The use of such information in connection with the employment or the status of workers has been a grave form of infringement of civil liberties, including the rights of free discussion and independent judgment underlying American institutions.³

Strikebreaking Services

The committee uses the term "strikebreakers" as meaning persons who, during or in anticipation of a labor dispute, are hired to replace regular workers and are offered compensation, in any form, at a rate in excess of the rate paid regular employees. The committee found that a significant form of strikebreaking was connected with the

¹ From *Monthly Labor Review* for May 1939.

² The extensive hearings and reports in this general field were authorized by S. Res., 266 (74th Cong., 2d sess.). The subcommittee of the Senate Committee on Education and Labor appointed June 6, 1936, under this resolution, was composed of Senator Robert M. La Follette, Jr., chairman, and Senator Elbert D. Thomas, and, until his death on July 6, 1936, Senator Louis Murphy. The hearings on "Violations of Free Speech and Rights of Labor" are the basis of the committee reports here reviewed.

³ U. S. Congress, Senate Committee on Education and Labor, *Violations of Free Speech and Rights of Labor—Industrial Espionage*. Washington, 1938. Senate Report No. 46, pt. 3 (75th Cong., 2d sess.). This report was summarized in the *Monthly Labor Review*, March 1938 (pp. 693-698).

employment of strikebreakers in such manner as to indicate an intention to cease or to transfer the operations of the plant when in fact the employer had no such intention.⁴

The committee's report on strikebreaking services deals mainly with the services rendered by detective agencies and employers' associations. An extensive occupational class has grown up for strike work, usually in the service of these organizations, but members of this class sometimes offer their services directly or set out to recruit their fellows for strike jobs. There have been three main types of strike services. Strikebreakers in the narrow sense of the word are commonly understood to be persons who temporarily replace striking workers. In most cases strikebreakers have not been qualified employees but have been, as frequently advertised by strikebreaking agencies, industrial shock troops with which to break strikes and cause the strikers to return to work.

In addition to strikebreakers as thus narrowly defined, guards or watchmen, usually armed, have been used extensively to protect strikebreakers, regular workers who remained at work, or plant property. Guards of this type must be distinguished from regular plant police and the local public police force. Such guards have usually been strangers both to the controversy and to the locality, although they have often been deputized as local police officers. Men who offer themselves as guards in strikes have formed a more or less distinct occupational group.

A third type of outsiders, employed to render special service in connection with strikes, has included persons engaged to mingle with striking employees or with their families or with townspeople under various disguises. They have variously represented themselves to be strikers or strike sympathizers or salesmen. Thus the connection between employees of this type and their employers has been concealed. Such persons are known in the strikebreaking trade as "missionaries" or "strike missionaries" or "street operators."

The three types of services have frequently been furnished by the same agencies. Although they represent specialized functions, they have had a single purpose, namely, the breaking of strikes. "Like industrial espionage, these strike services are weapons for the employer in his battle against the recognition of organizations of his employees. Thus, united in purpose, these services can be most profitably organized and offered by agencies or associations specializing in the practices of antiunionism."

There is evidence of the use of strikebreakers and strikeguards in the records of almost every State or Federal investigation of a major industrial dispute, extending back as far as 1882. However, the third type of strikebreaking service, that of the "missionaries," seems to have developed in its more extensive and characteristic forms during recent years.

No employer who has accepted the principle of collective bargaining in good faith can consider using such persons against his employees. Not only do such persons tend to provoke violence and disorder, but their purpose is to discredit and destroy instruments of collective bargaining and make amicable settlement of disputes an impossibility. Through their acts of intimidation, coercion, and provocation such persons violate the rights of free speech and free assembly and

⁴U. S. Congress. Senate Committee on Education and Labor. Violations of Free Speech and Rights of Labor—Strikebreaking Services. Washington, 1939. Senate Report No. 6 (76th Cong., 1st sess.).

the freedom of association of employees. Furthermore, during the period of this committee's investigation, the use of such strike services, and the business of purveying them violated the policy of labor relations enunciated by the Congress.

Private Police

Company-police systems have had a long history. They have been particularly prominent in those industries that have remote or isolated locations, such as mining and lumbering. In some instances, private policing has been necessary for protection against thievery and vandalism. The committee, while recognizing these circumstances, pointed out that in carrying out even these essential functions, private-police systems are created to defend the interests of the employer. They can be held accountable for antisocial actions only by criminal proceedings in the courts or by statutory limitations on their activities.⁵

There is almost universal agreement in the conclusions of governmental bodies that have investigated and studied company-police systems in the past, that they have been used as instruments of opposition to union organization of labor. In the company towns and in incorporated communities, where there is opposition to the principle of collective bargaining, the company-police system was used to abridge the constitutional rights of free speech and assembly and freedom of the press. In times of strike these private armies have often assumed the attitude of a State toward a foreign enemy at war, or the attitude of the public police toward criminals, shooting and killing union people in an effort to compel submission to the wishes of employers. In the face of such evidence, naturally, the attitude of investigating bodies in the past has been one of condemnation.

The concern of the committee, in relation to private-police systems, was primarily with their use as an instrument of labor-relations policy. The committee's report is confined mainly to analysis of the activities of private police and deputies in Harlan County, Ky., and of the company police of a single corporation outside of that area. It is stated, however, that evidence in the possession of the committee and of the National Labor Relations Board indicates that conditions described in the report were not exceptional. Certain general conclusions are stated regarding the consequences of the use of private armed guards as employers' agents in labor relations. These consequences affect gravely not only the civil rights of workers but also the maintenance of public peace and safety, the operations of the economic system, and the functioning of government.

Where private-police systems are used as instruments of antiunion policy, they (a) abridge and violate the civil liberties of workers and other individuals; (b) violate the rights of labor guaranteed by Federal statutes; (c) result in riots and bloodshed, causing loss of life and injury to persons and property; and (d) endanger the public safety. On the economic front, the use of private-police systems as agents in employers' antiunion policy causes disorganization of markets and interruptions in the free flow of commerce. The ruthless and brutal activities of armed private guards to prevent union organization (a) give unfair competitive advantage to those employers who oppress labor; (b) create bitterness between labor and management; (c) lead to strikes; and (d) cause interruptions in the flow of commerce.

The use of private deputies in an antiunion campaign is inimical to the maintenance of orderly representative government. It leads to (a) private usurpation of public authority; (b) corruption of public officials; (c) oppression of large groups of citizens under the authority of the State; and (d) perversion of representative government.

⁵ U. S. Congress. Senate Committee on Education and Labor. *Violations of Free Speech and Rights of Labor—Private Police Systems*. Washington, 1939. Senate Report No. 6, pt. 2 (76th Cong., 1st sess.).

Industrial Munitions

The Senate committee, in its study of labor espionage, found that spying was closely related to the use of strikeguards and private policemen and that all three types of service involved the ultimate use of force. In its study of these services, the committee learned of the extensive use of firearms and chemical munitions and therefore turned its attention to the character and effect of industrial munitioning. It was found that the use of munitions was particularly prominent at critical periods in the course of the relations of certain companies with their employees. The largest purchasers of industrial munitions were almost invariably employers who had assumed an attitude of hostility to collective bargaining; and whenever such companies established cordial relations with their employees through collective bargaining, the purchase of munitions usually ceased.⁶

Like the previous reports of this committee, this report is concerned with the relation of the industrial practices, which are its subject matter, to the national policy of collective bargaining and self-organization by employees. The committee's investigation of munitions covers the period from January 1, 1933, through the middle of 1937, thus coinciding with the existence of Federal laws establishing the principles of collective bargaining for businesses affecting interstate commerce. The record indicates that the possession and use of large quantities of arms by certain employers constitute a manifestation of hostility to such principles of labor relations, a hostility carried over from an earlier period of industrial history when the rights of labor were, for the most part, without statutory protection. Wherever large stores of arms were found in industrial plants, for example, some part of them, at least, was found to have been acquired in the years prior to 1933. Large purchases subsequent to 1933 indicate a continuance of the same attitude of hostility to collective bargaining in spite of the national labor policy and in the face of the rising tide of union organization. The attitude of those employers making the largest purchases of weapons in the period of 1933-37 is demonstrably one of determined opposition to labor unions. A large proportion of the strikes suffered by such employers involved the issue of recognition; in many cases such employers resorted to labor espionage, or employed strikebreaking agencies to use the weapons they had acquired.

In its study of the extent of industrial munitioning, the committee was unable to make a comprehensive inquiry but it found that more than 300 industrial purchasers had registered the purchase of machine guns and submachine guns during the period from shortly after the World War to the time of the committee's inquiry; and there was evidence that registration under the National Firearms Act of 1934 was incomplete. Toxic gases in several forms for industrial use and the equipment used in their discharge had been sold principally for use in labor disputes. Approximately half of the sales of gas weapons were to industrial employers, the other half being to public authorities. Gas munitions were sold in almost every industrial community of the country and in almost every State of the Union. Arrangements for the sale of gas apparatus were made by manufacturers with agencies and individuals that have supplied employers with other anti-union services, such as the hiring of undercover operatives and strikeguards.

⁶ U. S. Congress, Senate Committee on Education and Labor, *Violations of Free Speech and Rights of Labor—Industrial Munitions*. Senate Report No. 6, part 3 (76th Cong., 1st sess.).

One of the gravest aspects of the industrial munitions trade, the committee found, has been the effort of sales agents of the companies to establish business relations between themselves and officials of local governments.

In some instances examined, there was strong evidence of collusion between salesmen and the public officials, either for the purpose of increasing public purchases of munitions or relaxing the enforcement of applicable State laws. In other cases police officers became salesmen for the gas companies. The tendency of such a relationship to result in overzealousness on the part of local police in the use of gas during strikes, is obvious.

The committee found a few instances of the use of firearms by striking workmen or those in sympathy with them. It did not, however, discover any examples of the use of tear or sickening gas or their variations or of machine guns by strikers. The committee found no recorded sales of machine or submachine guns to labor unions or to persons identified as affiliated with labor unions.

It was recognized that under some circumstances certain companies have legitimate need for arms in the hands of their watchmen. This need, however, does not explain the extent to which arms have been purchased and stored. There was a preponderance of weapons obviously designed for aggressive rather than protective purposes. The aggressive nature of industrial munitioning is indicated also by the fact that the purchases of munitions and the arsenals maintained by certain corporations have been much larger than the amounts required for the normal protection of industrial property. The committee found, for example, that tear gas and tear-gas weapons had been purchased by corporations in quantities many times greater than those required by the police departments of some of our largest cities.

Beyond their effects on striking employees, industrial munitions jeopardize public peace. Their use threatens the physical safety of citizens not involved in the industrial disputes in which they are employed. Further, and more important, their irresponsible use constitutes usurpation of public police functions.

Legislative Recommendations

Following up the extensive hearings and investigations and conforming in general to the recommendations of various earlier agencies, the members of the committee on March 28, 1939, introduced a bill for eliminating the "oppressive labor practices" connected with industrial espionage, strikebreaking, private policing, and industrial munitioning.⁷

We doubt that any person will undertake to justify labor espionage or commercialize strikebreaking, the use of private police for these purposes, and the use or possession of industrial munitions during or in anticipation of labor disputes. No bill could more directly aid industrial peace. In no way does the bill deprive the employer of the fullest protection of property. It does not touch his legitimate private protective equipment nor limit policing activities on his own premises. It does strike at aggressive private armies by whomsoever employed. While the investigation has apparently corrected some ills the committee emphasizes that investigation alone has long been proved insufficient. Legislation is needed to end the evils. The bill contains nothing that will cause concern to the great majority of businessmen, most of whom now conform to present enacted national policies. A powerful minority have, however, fostered the oppressive practices banned in this bill and have developed their use to the point of constituting a menace to civil liberty generally; hence the urgency for legislation.

⁷ Congressional Record, Mar. 28, 1939, pp. 4760-4763.

Labor Organizations

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics : 1941 edition.

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Recent Developments in the Labor Movement ¹

At the close of 1941 the organized labor movement in the United States consisted of two large federations of national and international unions—the American Federation of Labor and the Congress of Industrial Organizations—and a number of independent unions not affiliated with either of these two federations. Outstanding among the independent unions were six large railway labor organizations, several groups of government employees, the International Typographical Union, and the recently organized National Federation of Telephone Workers. Company dominated or financed unions, frequently operating under “employee representation plans,” which prevailed in some important industries from the time of the World War, have now largely disappeared because of the provisions of the National Labor Relations Act forbidding employer support, coercion, or interference with the organization of employees.

The outstanding features in the development of the labor movement in the United States during the past 5 years have been the formation of the Congress of Industrial Organizations as a new federation of national and international unions and the unprecedented growth in membership of the unions affiliated with the A. F. of L. and the C. I. O. Existing labor legislation, particularly the National Labor Relations Act, passed in 1935 and declared valid by the Supreme Court in 1937, has contributed greatly to the strength and membership growth of the two national labor federations.

In many respects the fifty-fifth annual convention of the American Federation of Labor held in Atlantic City in October 1935, marked a turning point in the history of the labor movement. For years the problem of industrial versus craft unions had been the dominating question before A. F. of L. conventions. In 1935 the issue came before the convention repeatedly, particularly in the discussion of a group of resolutions dealing with industrial unionism as a policy and with resolutions defining the kind of charter to be granted to newly formed organizations in mass-production industries. On the issues brought to a vote, the decision went against the proponents of industrial unionism by a vote of approximately 36 percent for, and 64 percent against.

However, a month later officials of eight international unions affiliated with the A. F. of L. established the Committee for Industrial Organization. The purpose of the committee as stated by them was “to encourage and promote organization of the workers in the mass-production and unorganized industries of the Nation and affiliation with the A. F. of L.”

¹ Prepared by Boris Stern, of the Bureau of Labor Statistics.

At first the committee was composed of officials and individual members of the following organizations: United Mine Workers, whose president, John L. Lewis, was chairman; International Typographical Union, whose president, Charles P. Howard, joined as an individual without committing his organization to the movement and who became secretary of the committee; Amalgamated Clothing Workers; International Ladies' Garment Workers' Union; United Textile Workers; International Association of Oil Field, Gas Well and Refinery Workers; Cap and Millinery Department of the United Hatters, Cap and Millinery Workers; and the International Union of Mine, Mill and Smelter Workers. Later the International Union, United Automobile Workers, the United Rubber Workers, and the Federation of Flat Glass Workers joined as organizations.

An organizing campaign in the iron and steel industry was the first major job undertaken by the Committee for Industrial Organization. After some negotiation, the Amalgamated Association of Iron, Steel, and Tin Workers affiliated with the committee and took an active part in the campaign.

During the first year of its existence the committee was confined to organizations within the American Federation of Labor. In November 1936, it accepted as members two unaffiliated groups, the Industrial Union of Marine and Shipbuilding Workers and the United Electrical and Radio Workers. The president of the American Newspaper Guild joined in an individual capacity.

The American Federation of Labor through its president and executive council protested against the independent movement of the Committee for Industrial Organizations to organize mass-production industries and declared that the committee constituted a danger to the organized labor movement. At a meeting in January 1936, the executive council expressed the opinion that the committee "should be immediately dissolved," and appointed a subcommittee to confer with "representatives of the organizations which make up the Committee for Industrial Organization."

In July 1936, the executive council of the Federation voted to suspend the 10 international unions which held membership, as unions, in the Committee for Industrial Organization. The suspension did not apply to two organizations, the International Typographical Union and the United Hatters, Cap and Millinery Workers, whose officials were acting as individuals in their association with the committee.

The suspension order automatically debarred the unions from participation in the 1936 convention in Tampa, Fla. That convention upheld the action of the executive council of the American Federation of Labor in its dealing with the Committee for Industrial Organization, and voted to continue the suspension, pending further developments.

Establishment of Congress of Industrial Organizations

With the adoption of a constitution and the election of officers for the ensuing year at its first constitutional convention held at Pittsburgh, November 14-19, 1938, the Committee for Industrial Organization (C. I. O.) was converted into an independent federation of national

and international unions under the name of the Congress of Industrial Organizations (C. I. O.). The objects of the Congress of Industrial Organizations as outlined in article II of the constitution are:

(1) To bring about the effective organization of the working men and women of America, regardless of race, creed, color, or nationality, and to unite them for common action into labor unions for their mutual aid and protection;

(2) To extend the benefits of collective bargaining and to secure for the workers means to establish peaceful relations with their employers, by forming labor unions capable of dealing with modern aggregate of industry and finance;

(3) To maintain determined adherence to obligations and responsibilities under collective bargaining and wage agreements;

(4) To secure legislation safeguarding the economic security and social welfare of the workers of America, to protect and extend our democratic institutions and civil rights and liberties, and thus to perpetuate the cherished traditions of our democracy.

The structure of the newly established Congress of Industrial Organizations is in many respects similar to that of the American Federation of Labor. It is composed of affiliated national and international unions, national organizing committees which have the status of national unions, and local industrial unions chartered directly by the congress. In addition, State, city, and county industrial councils are organized with functions corresponding in most respects to those of city centrals and State federations of labor.

The officers of the congress are a president, six vice presidents, a secretary, and an executive board, all elected at the convention for a period of 1 year. No salaries are provided for these officers, under the assumption that they will be elected from among the officers of the affiliated unions and will thus be compensated for their services by their own organization. However, at the 1939 convention of the C. I. O., the constitution was amended to provide, if necessary, a salary for the office of secretary.

The executive board is composed of one member from and nominated by each affiliated national and international union and organizing committee. In addition, the president, vice presidents, and secretary of the C. I. O. are members of the board by virtue of their office. Headquarters are at Washington, D. C.

The executive board is empowered to direct the affairs of the C. I. O. between conventions. It may establish bureaus and departments and create such committees as are necessary for the proper handling of the affairs of the organization. The executive board also has the power to investigate any situation involving an affiliate, if it believes that such affiliate is conducting its affairs and activities contrary to the provisions of the constitution, and to make recommendations to the affiliate involved and report on the situation to the convention of the C. I. O.

Decisions of the executive board are made by a majority vote of its members. However, any member may demand a roll-call vote on any question before the executive board and in such event each member of the executive board is entitled to cast as many votes as there are members in his organization. In a roll-call vote the officers of the congress have no vote except that the president is entitled to cast the deciding vote in the case of a tie.

Membership Growth of Various Unions

The latest detailed figures on the membership of the A. F. of L. and the C. I. O. are those reported to their 1941 conventions. At that time the A. F. of L. reported a paid-up membership of approximately 4,569,100. The C. I. O. reported about 5,000,000 members. In addition to these affiliated groups, there are about 700,000 members in unaffiliated unions, chiefly consisting of railroad, telephone, and government workers. Based on these figures, it is estimated that the total union membership at the close of 1941 was approximately 11,000,000. This represents about one-fourth of the total nonagricultural wage earners and salaried employees in the United States.

American Federation of Labor

The paid-up membership of the A. F. of L. as of August 1941 reached a total of 4,569,056. This was the highest membership in its history, exceeding by 321,600 the 1940 figure and surpassing by nearly 500,000 the peak of 4,078,740 recorded in 1920. The total membership for 1941 does not include the 80,000 members of the International Typographical Union, which was suspended by the executive council of the Federation immediately after the 1939 convention in Cincinnati.

A. F. of L. affiliated unions with 50,000 members or more in 1941

Affiliated union	1941	1938	1936
Teamsters, chauffeurs, etc.....	408,300	309,200	161,000
Carpenters and joiners.....	300,000	300,000	300,000
Ladies' garment workers.....	225,000	(1)	196,700
Machinists.....	221,800	190,100	113,700
Hotel and restaurant employees.....	214,100	175,900	73,800
Electrical workers.....	201,000	175,000	170,000
Hod carriers and common laborers.....	183,700	147,700	65,400
Railway clerks.....	110,000	91,000	87,500
Painters.....	104,900	99,400	66,500
Musicians.....	100,000	100,000	100,000
Retail clerks.....	85,400	46,700	10,300
Meat cutters and butcher workmen.....	84,900	52,100	19,400
Bakery and confectionery workers.....	84,400	62,100	26,100
Street railway employees.....	80,700	79,000	75,700
Operating engineers.....	80,000	42,000	35,000
Building service employees.....	70,000	65,800	35,000
Maintenance of way employees.....	65,700	52,300	35,700
Bricklayers, masons, and plasterers.....	65,000	65,000	65,000
Railway carmen.....	65,000	65,000	58,300
Longshoremen.....	61,500	62,400	40,600
Letter carriers.....	60,000	60,000	50,000
Bridge and structural iron workers.....	52,000	41,300	16,000

¹ Suspended.

Congress of Industrial Organizations

At its first constitutional convention in 1938, the C. I. O. reported a total membership of approximately 4,000,000 workers. Since then, upon the advice of counsel, the Congress of Industrial Organizations has not released any official information on its membership. It is therefore impossible to measure statistically the growth of the C. I. O. and its affiliated unions since 1938. During the 1940 convention, however, the Congress of Industrial Organizations published the voting strength of the individual unions affiliated with it and this may be

taken as an approximation to the membership of its constituent national and international unions. The following organizations were credited with more than 50,000 votes:

	<i>1940 voting strength¹</i>
United Mine Workers.....	600,000
Steel Workers Organizing Committee.....	535,109
United Automobile Workers.....	412,000
Textile Workers Union.....	314,100
Amalgamated Clothing Workers.....	259,831
Electrical, Radio and Machine Workers.....	206,824
Cannery, Agricultural, Packing and Allied Workers.....	123,250
Packinghouse Workers Organizing Committee.....	90,000
Transport Workers Union.....	90,000
Retail and Wholesale Employees.....	80,000
Mine, Mill and Smelter Workers.....	70,000
Fur and Leather Workers Union.....	60,563
Rubber Workers of America.....	55,406
United Shoe Workers.....	53,627
Construction Workers Organizing Committee.....	52,940
State, County and Municipal Workers.....	52,904
National Maritime Union.....	52,000

¹No membership or voting-strength data were made public at the 1941 convention.

Attitude Toward National Defense

American Federation of Labor

The position of the A. F. of L. with regard to national defense is outlined in the report of the executive council and was unanimously approved by the more than 500 delegates to the 1940 convention. In part this report read:

Labor is willing and eager to serve this Nation, for it is the land where democracy and a free labor movement still exist. We have a reverence for our institutions and their possibilities, and we want our efforts and service to be used for their extension and preservation. We want every safeguard against transforming our democracy into a dictatorship in order to defeat the machinations of dictators but in so doing we do not want to destroy the soul of what we would defend. Therefore, labor maintains that our defense program and policies whether technically during peace or war should comply with these fundamental principles:

1. Majority rule—decision to declare war to rest with Congress as the representative of the whole people.
2. Defense program in the hands of representatives of functional groups technically qualified to assume responsibility for various parts of the program and headed by a civilian administrator.
3. Labor should have representation on all defense agencies dealing with matters affecting labor's welfare. Representation means selection by the group concerned.
4. Administration should be centralized for planning and decision on principles but decentralized for execution under responsible representatives.
5. Equal representation for employees and employers on advisory groups connected with employment control.

When the defense program shifts into war conditions these additional principles become imperative:

- (a) Universal obligation to service for defense—industrial or military—under the above democratic conditions.
- (b) Labor should have representation on all policy-making and administrative agencies and draft boards.
- (c) Labor standards and other provisions for social welfare must be maintained under emergency conditions as essential to efficient production as well as national morale.

Only by maintaining the right of functional groups to representation for participation in policy decisions and administration, even if only in an advisory capacity, can we hope to preserve the democratic way of life while we defend our right to it.

The 1941 convention of the American Federation of Labor reaffirmed the federation's support of the national defense program and its approval of President Roosevelt's foreign policy. Perhaps the clearest expression of the American Federation of Labor's desire to cooperate with the Administration in the present world crisis may be found in the resolution introduced by the Vermont State Federation of Labor and adopted unanimously by the convention:

Resolved, That the American Federation of Labor go on record as commending the stand of President Roosevelt in urging increased aid to Britain, the Soviet Union, and China for victory over Hitlerism, and we declare ourselves ready to join with the people of our organizations in support of President Roosevelt's policy.

With regard to aid to Soviet Russia, the convention, however, made it clear that in supporting aid to that country, so that her people may more adequately defend their national existence, such action "should not and must not be accepted as any change in our attitude toward communism."

The convention also took a positive stand on the role which labor is to play in bringing about an adequate peace among nations. It was resolved that this convention "inform the President of the United States that at the conference table at the ending of this world conflict, labor must have its representation because labor is enormously concerned * * * as labor has more at stake than any other branch of society. * * * It was also resolved that the convention authorize and instruct the executive council of the A. F. of L. to name a representative from amongst the men of labor and present the name of such chosen representative to the President of the United States.

Congress of Industrial Organizations

The delegates to the 1940 CIO convention approved the national defense policy framed by the executive board of the Congress of Industrial Organizations in June 1940. This policy was summarized by the committee on officers' reports as consisting of the following seven points:

1. Preservation of labor's rights as embodied in the National Labor Relations Act, the Wage and Hour Act, the Walsh-Healey Act, the Guffey Coal Stabilization Act, the Social Security Act, and other legislation.
2. The right of wage earners to organize into unions of their own choosing.
3. The right of organized wage earners to bargain collectively with their employers.
4. The right to freedom of speech, assembly, action, and worship.
5. Progressive improvement of real wages so as to improve purchasing power.
6. Progressive reduction of working hours for absorption of the unemployed and expanded production.
7. Legislation to insure security and opportunity for young and old people, the unemployed, and all the needy who are not otherwise provided for.

The convention also adopted President Lewis' recommendation that "labor be given representation in all the divisions of the National Defense Advisory Commission and in all policy-making governmental agencies equal in number and authority to representatives of industry."

It was not, however, until its 1941 convention, held in Detroit November 17 to November 22, that the Congress of Industrial Organizations formulated a clear policy with regard to the world-war situation and the foreign policies of President Roosevelt. In his report to the delegates, President Philip Murray of the CIO expressed his wholehearted support of the foreign policy of the United States and suggested that the CIO take a similar stand. The delegates unanimously adopted Mr. Murray's report as the official position of the CIO and confirmed this action by passing a separate resolution, which read in part:

We are fully cognizant and deeply appreciative of the dangers to our country as a result of the continued aggression of the Nazi government and Hitlerism. We cannot condemn too vehemently the cold-blooded murder of innocent civilians in the conquered nations by Hitler and his Nazi hordes, and call upon our Government to rally all free nations in their official condemnation of these brutal policies. * * *

The CIO declares it to be of paramount importance to the security of this Nation that we immediately furnish all possible aid to and completely cooperate with Great Britain, the Soviet Union, and China, which are the nations now carrying on the struggle to rid the world of Nazi-ism, the enemy of mankind, and thereby bring about the military annihilation of Hitler's regime. This program must be coupled with an aggressive preparedness and active defense by the united efforts of the nations of the Western Hemisphere.

The CIO commends President Roosevelt for his forthright foreign policy and in the joint action of the President and Congress in the recent amendments to the neutrality law which will permit this Nation to immediately arm and protect American ships and American seamen carrying vitally needed supplies to the heroic people of Great Britain, the Soviet Union, and China, and thereby assure the quicker defeat of Nazi Germany.

We urge upon our membership to a greater effort in our national defense program, to formulate policies, call conferences, and consult with members of our national administration, our employers, and other local groups, toward the end that by a mighty joint and unified effort we shall have done our part to destroy nazi-ism and preserve for the future benefit of America our present free and democratic way of life.

As an indication of further aid to promote national defense, the Congress of Industrial Organizations also adopted a resolution on strikes which urged affiliated unions to cooperate with industry and the Government to obtain maximum efficiency in production and to adjust all labor disputes on a voluntary basis through collective-bargaining machinery established in wage agreements and through the mediation facilities of the Government.

To make national defense and President Roosevelt's foreign policy most effective, the CIO urged the Government to adopt the Murray Industry Council Plan as most suited to the needs of the present national emergency. It was stressed that this plan would guarantee the production of armaments in needed quantities through the full and complete cooperation of industry, organized labor, and the Government. At the same time, the plan would preserve the basic democratic rights of the American people, namely, freedom of speech, assembly, and worship, and the right of workers to organize into labor unions for collective bargaining and mutual protection. The delegates made it clear, however, that the CIO did not wish it to be understood that its support of the national defense program was conditioned upon the adoption of the Murray plan. On the contrary, the CIO avowed

that it would do everything in its power "to rid this world of Hitler and Hitlerism."

Briefly, the Murray plan calls for the creation in each of the national defense industries of an industry council, with equal representation from labor and management and an impartial chairman representing the Government. The duties of such a council are to increase the efficiency of operation in each industry, to encourage labor-management-Government cooperation, and to develop and promote plans for maximum production.

Extending from the national industry council, the plan calls for local industry councils composed of local union representatives and management to expedite the handling of grievances and to promote efficiency, thus greatly increasing the output of defense materials in the plant.

Finally, the plan calls for a national board of review, composed of an equal number of representatives from labor, industry, and the Government, to coordinate the work of industry councils and to pass upon all disagreements and problems which cannot be settled on a local or industry basis.



The International Labor Organization

Although the war and the enemy occupation of many of the countries formerly members of the International Labor Organization seriously affected the work of the organization, much of its work has been maintained during the past 2 years. Naturally, however, the attention of the organization has been directed primarily toward the grave problems presented by the war and those which will have to be met when peace is restored.

The International Labor Office has carried on its work with a reduced staff since its removal to Montreal in August 1940, and the International Labor Conference, held each year since 1919 with the exception of 1940 when war conditions made it impossible, was held in New York in October 1941.

The purpose of this Conference was to confer on policy and procedure; to consult on the part the I. L. O. should play in post-war reconstruction, and to discuss the problem of securing effective cooperation, in time of peace and in time of war, between representatives of Governments, management, and workers. These subjects were presented in two reports prepared for the Conference—that of the Acting Director Edward J. Phelan on The I. L. O. and Reconstruction, and that of the International Labor Office on Wartime Developments in Government-Employer-Worker Collaboration. Due to the world situation, and to the fact that not all of the member countries could be represented, no action on conventions was considered.

In spite of the war the Conference was attended by representatives of 35 countries. The countries represented included the Americas, North and South; the British Empire and its self-governing Dominions; the European Governments in exile; France; Ireland; China; Thailand; Egypt; and Iran.

The Conference adopted several resolutions and a program of action for the International Labor Office in putting them into effect. Par-

ticularly noteworthy was the resolution submitted by the United States delegates and unanimously adopted by the Conference aligning the International Labor Organization in support of the free peoples of the world in their struggle against totalitarian aggression, proposing a plan for post-war reconstruction, and calling for the representation of the I. L. O. at the peace conference at the close of the war.

Other resolutions concerned the protection of seamen, improving social-economic conditions in the Americas; representation of management and workers on Government agencies concerned with public policy affecting the interests of these groups; the development of plans for dealing with international transportation problems and with world textile problems. There was also a resolution adopted on the recommendation of the worker delegates from 22 countries urging that the utmost possible industrial aid be given to China, Great Britain, Russia, and their allies, and proposing economic cooperation among the free countries of the world as a basis for post-war reconstruction and the establishment of peace.

Affiliation of the United States With the International Labor Organization

The Congress of the United States passed a joint resolution in June 1934 authorizing the President to accept membership in the International Labor Organization on behalf of the United States Government. Under this authorization, the President on August 20, 1934, formally accepted the invitation of the International Labor Organization to become a member of that body.

Purpose of the International Labor Organization

The International Labor Organization was created at the close of the World War for the purpose of securing improved and more uniform labor standards for the workers of various countries. The animating reasons as then set forth were: First, that injustice and hardship to large numbers of workers are potent causes of unrest and are thus perils to world peace; and, second, that the failure of any nation to adopt humane conditions of labor is an obstacle in the way of other nations which desire to improve their own conditions.

Structure of the Organization

The work of the organization is performed by three entities: the annual conference, the International Labor Office (often referred to simply as the Office), and the Governing Body. The annual conference is composed of delegates designated by each of the member States. Each State is entitled to four delegates, one representing employers, one the workers, and two the government concerned. Representation is thus essentially tripartite at the conference, as it is in the Governing Body, and in other bodies instituted by the organization.

The primary function of the conference is to formulate proposals regarding labor standards. The proposals are referred to as draft conventions. It requires a two-thirds majority of the conference

to adopt a draft convention. If adopted, the proposal is submitted to the competent authorities of the member States for their attention. When a State approves a draft convention it is, of course, bound by its terms, but if it disapproves, no obligation at all rests upon it. In other words, the conference acts as a meeting ground for discussing and drafting proposals. The only obligation resting on the participating governments is that of formally transmitting any proposals on which the conference can agree by a two-thirds vote to the competent national authorities for their approval or disapproval. The conference has, however, an additional significance in that, representing as it does the various economic groups in a very large number of countries, any agreement arrived at by substantial majorities may be assumed to reflect in some degree the current of world opinion and may also have an influence upon such opinion, and thus ultimately upon State action.

The International Labor Office is the secretarial and research branch of the International Labor Organization. The Office is under the control of a Governing Body of 32 members, consisting of 16 government representatives and 8 representatives each of employers and workers. This body meets four times a year and, among other duties, establishes, subject to the ultimate control of the conference, the items to be placed on the agenda of the conference and makes important decisions regarding financial policy. Since the outbreak of war in Europe an emergency committee of the Governing Body, in which the United States is represented, has made some of the decisions normally within the competence only of the entire body.

Accomplishments of the Conferences

During the past 20 years the organization has performed two major types of concrete work—concrete, as opposed to the influence it has exerted as a moral force on the improvement of international relations through the elevation of labor standards. The two major, tangible tasks have been, first, the proposal and drafting of labor conventions, or treaties, for submission to governments with a view to ratification; second, the collection and distribution of information bearing on labor matters.

During the period of United States membership the usual statistical and descriptive work has been published, and the Bureau of Labor Statistics has cooperated intimately with this aspect of the organization's work. But the entire program of research and investigation of the Office is, in the last analysis, directed towards sessions of the conference, in which the work of the staff for the preceding year finds fulfillment.

In addition to the regular annual session of the conference, normally held in June, several special sessions have been held in which the United States has played a marked role. Two of these were labor conferences of the American States, one held in Santiago, Chile, 1936, the other in Habana, Cuba, 1939. No conventions were elaborated at either of these conferences, but resolutions on social and labor questions, usually of peculiar interest to the Western Hemisphere, pointed the way to further work. The Santiago conference laid the groundwork for another special session, the World Textile Confer-

ence, held in Washington, April 1937. The discussions at the Textile Conference paved the way for the adoption at the regular June conference, 1937, of the 40-hour week convention for the textile industry. Also in 1936 special maritime sessions of the conference were held, at which six conventions and two recommendations relative to the working conditions of seamen, were adopted by large majorities.

Ratification of International Labor Conventions

At the end of 1939 the conferences of the International Labor Organization had adopted 67 draft conventions. These deal with various types of social insurance for industrial workers, agricultural workers, and others; with regulation of child labor of various sorts; with limitations on hours and times of work; with the prevention of industrial accidents and diseases; with provision of public employment offices; with the engagement and repatriation of seamen; and with the subjects of industrial employment of women at night, the right of agricultural workers to organize, inspection of emigrants, minimum-wage-fixing machinery, and forced or compulsory labor. At the end of 1939 these conventions had received a combined total of 839 ratifications. A number of conventions had, at the outbreak of war in Europe, been in existence so brief a period that few ratifications (if any) were to be expected.

It is probably safe to estimate that 2,500 ratifications are theoretically possible. This figure suggests that almost exactly one-third of the possible ratifications has been attained in actual fact. The rate of ratification suffered a severe drop after 1932—something which is to be explained first by the depth and persistence of the world-wide economic depression and secondly by increased productivity for war, which could not be combined with improvements in working conditions. It should be pointed out, in any case, that simple arithmetic does not shed much light on ratification. The standards of some of the conventions have no practical relevance to the life of some member countries. There are, for example, a dozen or so conventions that deal with some aspects of the employment of seamen or of dockers. And there have been, until recently, as many as seven member States which have no coast line on an ocean or inland sea. Thus, a total of 84 ratifications are possible but almost meaningless on this score alone. In some countries social legislation cannot, for reasons involving custom or constitutionality or both, ordinarily be made the subject of international commitment on the part of the central government. Such governments are likely to have relatively weak ratification records.

Certain large countries, commercially and industrially important, have had good ratification records. These include Great Britain and France, Holland, India, Poland, and the Scandinavian countries. Italy, Germany, and Japan, though inactive or nonmembers for a number of years, were not behind other important nations. In South America, Chile is the leader.

The United States, a very recent member of the organization, has ratified five of the six conventions adopted during the maritime session of 1936. In the United States, the Federal Government has exclusive jurisdiction over maritime employments. These conventions

and recommendations, together with comments from various interested departments of the Government, were submitted to the Senate by the President on August 10, 1937. On June 13, 1938, the Senate gave its official approval to five of the conventions. These concerned (1) holidays with pay for seamen; (2) minimum age for employment of children at sea; (3) hours of work on board ship, and manning; (4) minimum requirements of professional capacity for masters and officers on board merchant ships; (5) liability of the shipowner in case of sickness, injury, or death of seamen. These are the first International Labor Organization conventions or treaties to be ratified by the United States. A sixth draft convention concerning sickness insurance for seamen was not adopted. While the subject was considered worthy of consideration by the officials of the Government, it was not recommended, but was made contingent upon a thorough survey and study, indicating that the creation of such a system would be desirable. No positive action was taken by the Senate on two recommendations concerning the promotion of seamen's welfare in ports, and on hours of work on board and the manning of coastwise ships.

Reservations appended to the ratifications limited the scope of certain of the conventions to the high seas, and excluded the Philippine Islands and Panama Canal Zone from the application of all the conventions.

International Labor Office

As noted above, the International Labor Office is the secretarial and research division of the International Labor Organization. Article 396 of the constitution of the International Labor Organization provides that the functions of the International Labor Office shall include:

The collection and distribution of information on all subjects relating to the international adjustment of conditions of industrial life and labor, and particularly the examination of subjects which it is proposed to bring before the conference with a view to the conclusion of international conventions, and the conduct of such special investigations as may be ordered by the conference.

It will prepare the agenda for the meetings of the conference.

It will carry out the duties required of it by the provisions of this part of the present treaty in connection with international disputes.

It will edit and publish in French and English, and in such other languages as the Governing Body may think desirable, a periodical paper dealing with problems of industry and employment of international interest.

Generally, in addition to the functions set out in this article, it shall have such powers and duties as may be assigned to it by the conference.

From the foregoing, the functions of the Office are construed as falling into four main groups:

1. It prepares the agenda of the Governing Body and the conference, and attends to the execution of their decisions.
2. It conducts research into a wide field of industrial and economic problems.
3. It issues a series of periodical and other publications containing information on social and industrial affairs, including international comparative studies on various questions.

4. It maintains relations with associations and institutions concerned with industrial and social affairs, collects information with regard to current events and movements in the world of labor, and supplies such information to inquirers.

Before the International Labor Organization began the attempt to elevate international standards, preparation for action in the field of labor legislation with special regard to unemployment had been established in Europe through broadening from local to national effort in the principal industrial countries in the latter years of the last century. The first efforts were directed to the improvement of the statistics of unemployment through the work of the International Statistical Institute, and later an international congress on unemployment held at Milan in 1906 recommended periodic reports of work and unemployment by all industries, the establishment of free public employment agencies, the provision of optional or compulsory unemployment insurance, and governmental subsidies to employment bureaus established by workers. International conferences on legislation for the protection of workers had resulted in the establishment of an International Labor Office at Basel in 1901. This unofficial movement toward cooperation was made official by the inclusion of a labor section in the peace treaty and the establishment of the International Labor Organization.

The International Labor Organization and the War

It could hardly be expected that the state of war and near-war throughout the world would fail to have repercussions on the organization. In the early months of 1939, Germany, Italy, Japan, and the U. S. S. R. had already severed their ties completely or were only nominal members; in 1940 even their nominal membership was at an end. The budgetary problems raised by these withdrawals was beginning to be felt in 1938, and in the following year the Office was compelled to cut its staff drastically to effect the necessary economies. The success of the regional conference of American States at Habana, held late in 1939, was a demonstration of faith in the organization. A few months later the Governing Body met as usual, in usual numbers, under its American chairman, Mr. Carter Goodrich. A wartime program was elaborated.

The events of the spring of 1940 increased the problems of the organization. Communication became difficult; further economies entailed a considerable staff reduction; some of the member countries lost their independence of action. In these circumstances the Office decided to transfer—at least for the present—its seat of chief activity to Montreal, Canada. Since, in the past 5 years, the center of gravity of the organization has been deemed by competent observers to be going westward, this move, though dictated by war, is confirmed by the logic of the organization's history.



Union Agreements in Individual Industries

The agreements negotiated by unions and employers in 21 different industries have been analyzed in articles in various issues of the *Monthly Labor Review*. Lack of space precludes their summarization

in this handbook. Following is a list of titles of these articles and the issues of the *Review* in which they appeared.

	<i>Monthly Labor Review</i>
Collective Agreements in the Brewery Industry, 1935-----	April 1936
Collective Bargaining in the Glass Industry, 1935-36-----	May 1936
Union-Management Relations in the Women's Clothing Industry, New York Industrial Area, 1936-----	July 1936
Collective Bargaining in the Hosiery Industry, 1936-----	September 1936
Collective Bargaining in Pulp and Paper Industry of Pacific Northwest-----	November 1936
Collective Agreements in the Petroleum Industry-----	February 1937
Union Agreement With Aluminum Co. of America-----	do.
Collective Agreement in the Corrugated-Paper Industry-----	do.
Collective Bargaining by Amalgamated Clothing Workers-----	July 1937
Collective Agreements in Upholstery and Floor-Covering Trades-----	November 1937
Collective Bargaining on the New York City Transit Lines, 1937-----	March 1938
Collective Bargaining by United Electrical, Radio, and Machine Workers-----	July 1938
Development of Collective Bargaining in Metal Mining-----	September 1938
Collective Bargaining by Federal Labor Unions in the Cement Industry-----	October 1938
Collective Agreements of the United Shoe Workers-----	November 1938
Agreements of Gas, Coke, and Chemical Workers (District Fifty, U. M. W.)-----	April 1939
Collective Bargaining by United Rubber Workers-----	September 1939
Collective Bargaining by the American Newspaper Guild-----	April 1940
Union Agreements in Aircraft Manufacturing-----	August 1940
Union Agreements in Shipbuilding-----	September 1940



Origin and Significance of Labor Day ¹

Labor Day is definitely a creation of the present-day labor movement. It seems, from the available record, to have originated in a motion made by one of the pioneer unionists in a meeting of the Central Labor Union of New York City on May 8, 1882, that one day in the year, to be designated as "Labor Day," should be established "as a general holiday for the laboring classes." The mover of the resolution was Peter J. McGuire, at that time the general secretary of the Brotherhood of Carpenters and Joiners, and a delegate to the Central Labor Union of New York, which had just been formed. In support of his idea he pointed out that although other notable American holidays were "representative of the religious, civil, and military spirit," there was no occasion devoted to "the industrial spirit, the great vital force of every nation." He suggested the first Monday in September for the holiday he had in mind, "as it would come at the most pleasant season of the year, nearly midway between the Fourth of July and Thanksgiving, and would fill a wide gap in the chronology of legal holidays." Mr. McGuire's resolution was adopted and a committee was appointed to plan a demonstration in line with his suggestion of a street parade, "which would publicly show the strength and esprit de corps of the trade and labor organizations," to be followed by "a picnic or a festival in some grove."

¹ Abstract of article by Estelle M. Stewart, U. S. Bureau of Labor Statistics, in the *Monthly Labor Review* for August 1936.

The first Labor Day occurred on Tuesday, September 5, 1882, in New York City, in accordance with the plans of the Central Labor Union. As reported in the New York World of September 6, 1882:

The great labor demonstration and picnic yesterday under the auspices of the Central Labor Union, composed of the various trade and labor organizations of New York City and neighborhood, was very successful. Mr. John Swinton, Louis F. Post, C. A. Beecher of Newark, P. J. McGuire, and others were speakers.

Labor Day Legislation

The first official recognition of Labor Day as a legal holiday came through municipal ordinances that were passed during 1885 and 1886. From them developed the movement to secure State legislation. The first bill was introduced into the New York Legislature, but the first to become law was passed by the Oregon Legislature on February 21, 1887. That law, however, designated the first Saturday in June as Labor Day. It was amended in 1893 to conform to the general plan which by that time was widely accepted. During 1887 four States in addition to Oregon—Colorado, Massachusetts, New Jersey, and New York—created the Labor Day holiday by legislative enactment, and by the end of the decade Connecticut, Nebraska, and Pennsylvania had joined them, while Iowa and Ohio followed in the early months of 1890.

At the 1890 convention of the American Federation of Labor, held at Detroit in December, President Gompers reported that "the first Monday in September, the day set apart by several States known as Labor Day, has been more generally observed than ever before." He recommended "that efforts be made to have all the States enact a similar law" and that governors be urged "to follow the example set by the Governor of Kansas by issuing a proclamation calling upon the citizens of the State to observe it." The Governor of Kansas evidently anticipated the legislation in his State, as the law making Labor Day a legal holiday in Kansas was enacted on March 4, 1891. That proclamation, which was issued August 13, 1890, and is undoubtedly the first gubernatorial message on the subject of Labor Day, reads:

The Topeka Trades and Labor Assembly ask that the several State departments be closed on Labor Day, and that the National flag be displayed on the State capitol.

The object of the State Federation of Labor (of which the Topeka Trades and Labor Assembly is a part) is "a closer relationship between all branches of organized labor, in order that equality of right and privilege may be obtained for wage workers," and "to obtain an 8-hour workday, better general conditions of labor, and other needed industrial and social reforms."

It is hardly an exaggeration to say that the whole people of Kansas are laboring men and women. Labor is better paid and held in higher esteem in the United States than in any other country, and in no State is labor more honored than in Kansas. It is our lot and will be the lot of our children. Whatever can be done to better the condition of the laboring man will tend to the elevation of our whole people.

In view of these facts, and in full sympathy with all legitimate efforts of the wage worker in all parts of our Commonwealth, I, Lyman U. Humphrey, Governor of the State of Kansas, do hereby proclaim and set apart Monday, September 1, 1890, as Labor Day, and respectfully recommend that the day be observed as a holiday, and that business be so far suspended as to permit all persons who may desire, to participate in the public exercises of the occasion.

From 1891 to the end of 1893, 21 more States created the State holiday in honor of the workers, and on June 28, 1894, Congress

passed, without discussion, an act making the first Monday in September of each year a legal holiday in the District of Columbia and the Territories. The recognition accorded Labor Day by act of Congress added materially to the significance of the movement and to the prestige of the holiday itself. By 1900 most of the States had recognized Labor Day officially, and the forty-eighth State to fall in line was Wyoming, which passed its Labor Day law as recently as February 1923. The day was not uniform throughout all jurisdictions in the original laws, but amendments have been made wherever necessary to conform to the original plan. The laws of Wisconsin and Wyoming do not designate a specific date but direct the governor to set a suitable day. In practice, of course, the governors designate the first Monday in September for the observance.

The widespread acceptance and observance of Labor Day made it, within a few years, a national holiday with the same status as the patriotic and religious holidays whose history and traditions went much farther back into the national life. In fact, it seems to have been so thoroughly taken for granted that, during the late nineties and the first decade of the 1900's, it is scarcely mentioned in the proceedings of American Federation of Labor conventions, although the official journal of the organization, the American Federationist, usually made the September issue a special Labor Day edition. In 1910, however, President Gompers, in his report to the convention of that year, protested against the extent to which the traditional Labor Day parade was falling into disuse and the real significance of the day was being lost sight of in "jollification." Two years later he repeated his warning.

Again in 1914 the executive council, with the observation that "no human movement remains at one level, it must increase or it must decrease," asked the question: "Shall Labor Day lose its distinctive character and become a mere holiday for general meaningless purposes and for the exploitation of private profit?"

It is undoubtedly true that the character of the Labor Day celebration has been undergoing change in recent years, especially in large industrial centers where the physical problems connected with mass displays such as huge parades have proved a deterrent. That change is, however, really a shift in emphasis and in medium of expression, by which the old objective of directing attention to the workers, their aims, ideals, and achievements has gained rather than lost. Labor Day messages from public officials and men and women prominent in social and civic affairs appear not only in the labor papers but in the general press; Labor Day addresses of leading union officials, industrialists, educators, and clergymen are given a wide hearing over the radio, and through the cooperation of many churches the day preceding Labor Day is dedicated to labor as Labor Sunday, and the spokesmen of labor not infrequently occupy the pulpits on those occasions.

Labor Day in Collective Agreements

It should be pointed out that for the mass of the workers, holidays reduce earnings, and that by celebrating Labor Day most workers sacrifice a day's pay to the principle and the ideal for which the holi-

day stands. For piece workers that is almost uniformly true, as it is for time workers unless they are under collective agreements specifically providing for holidays with pay. That condition is by no means general, although in most agreements in which Labor Day is recognized, work is forbidden except in emergencies.

When agreements do call for the payment of wages for specified holidays, Labor Day is always listed, in some cases sharing that honor only with Christmas and Independence Day. When work is permitted on Labor Day, these agreements usually provide for pay at the rate of time and a half or double time; or in such lines of work as baking, brewing, delivery of milk, and so on, an early hour—generally 9 or 10 a. m.—for stopping work is fixed.

Six agreements in operation in the women's clothing industry in 1930 contained the provision: "No work on Labor Day, but all workers (week and piece) to receive pay for day, whether there is work in the shop or not during Labor Day week." This provision is particularly interesting because the agreements stipulated that the other national holidays "shall be observed without pay." In the building trades, provisions regarding work on Labor Day are more stringent than those applying to other holidays.



Legislation Regarding the Union Label

A union label is a symbol used on the products of manufacturers to indicate that they are made in unionized shops, factories, or industrial establishments. It is usually displayed on the article by such means as a label, stamp, or other imprint. In addition to the label, shop cards indicating that the establishment is unionized are issued as well as union working buttons, assuring to the general public that the services of the employees are rendered by members of a trade union.

The union-label law therefore secures to labor organizations the right to register, use, and protect from counterfeit or unauthorized use the trade-marks or labels chosen by them to distinguish the products of union labor from other goods or manufactured articles.

The development of the use of union labels is divided by some writers into three periods. The first period was marked by the introduction of the use of a label in 1875 by the cigar makers in California. This was a result of the keen competition between the white cigar makers and the Chinese laborers, and it appears to have had considerable influence, for some time, in diverting trade from the Chinese to the white shops.¹ The second period covers the adoption of the label by other trade unions (largely through the influence of the Knights of Labor) as a means of combating particular forms of competition to which the members of these unions were subject. The third stage was that in which widespread use of the labels began to be made as a matter of general union policy. The movement spread rapidly and the use of labels became popular with unions whose products were of such a nature that labels could easily be attached. Some

¹ From *Monthly Labor Review* for June 1937.

² Spedden, Ernest R.: *The Trade-Union Label*. Baltimore, Johns Hopkins Press, 1910.

organizations, such as those of the granite cutters, stonemasons, and glassbottle blowers, found the use of labels difficult, but the majority of the unions found the label useful and soon adopted its use.

To make the union label an effective instrument, it was necessary that the union be able to prevent its use by other persons not members of the union. The cigar makers at first had little difficulty, but as the use of the label became more general, counterfeiting of it became less rare. The earlier cases, tried by the courts of original jurisdiction, were in favor of the union and injunctions were issued on the ground that since the object and effect of the label were to increase the value of the labor of the union members, who had a property right in their own labor, the union also had a property right in the label. Other courts upheld the union in protecting the use of the label, on the ground that counterfeiting was "perpetrating a fraud which injures the complainant's business and occasions him a pecuniary loss." The Kentucky Court of Appeals concluded the opinion in the case of *Hetteman Bros & Co. v. Powers* (102 Ky. 133) by saying:

We are of the opinion that the law may be justly invoked by organized labor to protect from piracy and intrusion the fruits of its skill and handiwork and that brain and muscle may be the subjects of trade law rules as well as tangible property.

On the other hand, in Minnesota a court held that the union label could not be protected as it did not indicate any individual manufacturer nor point distinctly to the origin or ownership of the article to which it was applied. A similar conclusion was reached by the courts of Pennsylvania, and in Massachusetts the court said in the case of *Weener v. Brayton* (25 N. E. 46) that as the label was not itself property the officers and members of a union could not have an injunction against its unauthorized use.

Thus, in some States injunctive relief was denied and in others, when allowed, was not sufficient to stop the counterfeiting. Therefore, agitation was made for the enactment of legislation subjecting the counterfeiter to criminal prosecution. Laws allowing criminal punishment were passed immediately in several States and other States soon followed. At the present time 45 of the States have enacted union-label laws.

Labor Standards

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Work of Division of Labor Standards ¹

The Division of Labor Standards established by the Secretary of Labor in 1934 to promote the improvement of labor standards has used three major approaches to this task: (a) Improvement of employment conditions, especially in the field of safety and health; (b) improvements in legislation; and (c) improvements in administration of labor laws.

The Division has cooperated with labor organizations, employers, and trade associations, State agencies administering labor laws, and civic bodies interested in labor programs. It has responded to requests coming also from governors, universities, schools and colleges, Federal officials, State legislators, and Congressmen and Senators. Especially since the launching of the national defense effort, the calls upon the Division have multiplied, particularly in connection with industrial safety and apprenticeship.²

Interdepartmental Safety Council

This council was created by Executive order, March 21, 1939, as an official advisory agency in matters relating to the safety of Federal employees, and the Division of Labor Standards' safety engineer is secretary to the council, whose membership includes the executive departments and agencies of the Federal Government and the District of Columbia. The purpose of the council was to effect improvements in the safety practices and accident records of governmental agencies, to act as a clearing house for accident prevention and health conservation, to make surveys, to make recommendations, and to prepare forms and procedures.

The first major task has been to prepare a Federal safety code applicable to all Government construction projects. In the past, Government construction work has been carried out under a wide variety of safety and health requirements, depending on the agency supervising the work. In many cases these requirements were not only incomplete, but conflicting. The Division of Labor Standards has prepared the proposed code, based upon codes now tested and in use. Reference to the code will be made in a uniform clause on safety and health to be inserted in all Federal construction contracts. Both the clause and the code have been developed in consultation with the Government officials in charge of construction work for the Army, the Navy, and the Federal Works Agency.

Other Safety and Health Activities

Studies of hazards in particular operations, industries and plants have been made by the Division's safety engineers and its industrial hygiene consultant, Dr. Alice Hamilton, at the request of both unions

¹ Prepared by the Division of Labor Standards, U. S. Department of Labor.

² For description of work on apprenticeship, see Apprenticeship and Training section of this handbook. See also Safety and Health in Defense Industries.

and employers. The investigations have led to improved methods of controlling the hazards and when published in bulletin form have made the results widely and easily available to management, labor and State officials.³

A series of popular leaflets, each describing the symptoms, causes, and methods of preventing a single occupational disease, has been prepared and widely distributed through unions and in plants. These are intended to counteract hysteria by giving briefly and simply the main facts needed by workers and management in their routine work. Nineteen have been issued.

A comprehensive list of harmful substances, with a description of industrial processes in which they are encountered, appears in the revised *Handbook of Occupation Hazards and Diagnostic Signs*, previously published by the Bureau of Labor Statistics.⁴

Services to State departments of labor in connection with inspection and enforcement activities have included technical assistance in drafting safety codes to be adopted under State laws; assistance in organizing training courses for inspectors for single States or groups of neighboring States; bringing together a committee of labor law administrators and organized labor representatives to formulate desirable standards to govern the selection of qualified safety inspectors; and preparation of an inspection manual based on the experience of State labor department inspectors.⁵ The training courses have included inspectors of 20 States, with additional States participating by lending their more experienced inspectors as instructors. Colleges and universities have cooperated in making facilities available, and numerous companies have offered their plants as laboratories for inspection purposes. The personnel standards recommended have been adopted in several States as the basis for their requirements. Another committee later developed a similar set of standards for general law inspectors.⁶

In 1936 when public interest and alarm over silicosis reached a climax, the Secretary of Labor tried a new approach. She called together in conference representatives of all the factors involved—labor, industry, insurance companies, State labor and industrial accident board officials, medical, legal, and safety experts and engineers, and representatives of the public. The Division of Labor Standards assumed responsibility for organizing and coordinating the work of the conference and its four subcommittees, and later published the reports dealing with medical control, engineering control, economic, legal, and insurance phases, and regulatory and administrative phases.⁷ As a result of the conference and its studies, practical methods of eliminating from workplaces dusts causing silicosis are today more widely understood and more generally installed than formerly.

³ See Bulletin No. 7: *Recent Changes in the Painters' Trade* (1936); Bulletin No. 34: *Occupational Poisoning in the Viscose Rayon Industry* (1940); Bulletin No. 37: *Protecting Eyes in Industry* (1940); and *Silicosis Prevention—Dust Control in Foundries* (1939).

⁴ See Bulletin No. 41 (formerly Bulletin No. 582 of the Bureau of Labor Statistics).

⁵ See *Factory Inspection Standards and Qualifications for Factory Inspectors* (1939); and Bulletin No. 20: *Inspection Manual* (1938).

⁶ See Bulletin No. 38: *Qualifications for General Labor-Law Inspectors* (1940).

⁷ Bulletin No. 13: *National Silicosis Conference—Summary Reports* (1937); and Bulletin No. 21: *National Silicosis Conference, Final Reports, Parts 1-4* (1938).

National Conference on Labor Legislation

The Division of Labor Standards annually assists the Secretary of Labor in organizing the National Conference on Labor Legislation, which met seven times between 1934 and 1940, and publishes the Reports and Resolutions and the Proceedings.⁸

To these conferences the governors delegate their labor commissioners and usually one or two representatives of labor organizations. The conferences have in their discussions, resolutions, and recommendations, covered a wide range of labor law, have agreed upon general standards, and have made specific detailed recommendations for effective language to embody these standards in State statutes. Committees of labor commissioners, meeting between conferences, have contributed their practical experience with laws now on the statute books in order to frame laws that will best accomplish the purpose in hand within the constitutional framework. Suggested language for State bills on the following subjects has been drafted by such committees and is available from the Division of Labor Standards: Industrial homework; wage payment and wage collection; voluntary apprenticeship; regulation of private employment agencies; and State wage and hour regulation.

Regional conferences are also held from time to time at the request of State or local groups, bringing together many different agencies, public and private, and individuals interested in the promotion of sound labor standards.

Legislative Service

In addition to sending out the drafts for State bills prepared by the committees, the Division is frequently asked for advice and suggestions on proposals to amend State laws. These requests come from governors, State legislators, State administrators, labor organizations, and individuals. Frequently the request is for information on the comparative standing of a State with respect to the laws of other States, or for information concerning certain provisions in other State laws, and the experience with them. The Division is enabled to answer these requests only by keeping thoroughly up to date its information as to current and past labor-law enactments, rules, regulations and reports issued by State labor departments and similar agencies; and by keeping in personal contact with administrators in various phases of their work. The Division has made its legislative drafting service available to many States in connection with workmen's compensation laws, laws setting forth powers and duties of State labor departments, general safety laws, and laws dealing with hours, wages, and industrial homework.

⁸ Bulletin No. 3: Second National Conference on Labor Legislation, Asheville, N. C. 1935; Bulletin No. 12: Third National Conference on Labor Legislation, Washington, D. C. 1936; Bulletin No. 18: Fourth National Conference on Labor Legislation, Washington, D. C. 1937; Bulletin No. 25: Fifth National Conference on Labor Legislation, Washington, D. C. 1938; Bulletin No. 35: Sixth National Conference on Labor Legislation, Washington, D. C. 1939; and Bulletin No. 45: Seventh National Conference on Labor Legislation, Washington, D. C. 1940.

A summary of labor bills introduced into State legislatures and action taken thereon is issued weekly during the legislative session in a limited mimeographed edition for the use of State officials primarily. Annually a digest of the principal labor enactments by State legislatures and by Congress is published.⁹

The Division has also brought together in handbook form a summary of all the labor laws enacted by Congress and administered by Federal agencies.¹⁰

Coordination of Federal-State Inspection Services

One unit of the Division of Labor Standards was formed to work in cooperation with the Wage and Hour Division, the Children's Bureau, the Division of Public Contracts, and State labor departments towards coordinating their various activities relative to the enforcement of State and Federal wage, hour, industrial homework, and child-labor legislation.

Programs are being developed to reduce duplication of inspections to a minimum, to provide for the most effective use of Federal and State staffs, and to promote uniform standards of inspection. Surveys have been made in a dozen States of their inspection policies and procedures, methods of selecting and training inspectors, and other administrative practices. This has led in certain States to the utilization of State inspection staffs for inspections under the Fair Labor Standards Act on a reimbursable basis, and in other States to informal arrangements for coordinating Federal-State inspection and exchanging information.



Standards for Employment of Women in Industry¹¹

When women's work was confined to their homes, they could control to a large extent their working conditions. Now they are but cogs in a gigantic machine, and control has shifted from their hands to those of industrial management.

The Nation's best interests demand high labor standards for women. The Women's Bureau in the United States Department of Labor is the particular agency established to serve the interests of women who work, to formulate standards and policies to improve their working conditions, increase their efficiency, and promote their profitable employment. This Bureau makes special studies of women's problems and recommends solutions.

The following standards, recommended by the Women's Bureau, are not all-inclusive—they may not even represent all the best or the most

⁹ See Digest of Principal State Labor Legislation, 1935; Bulletin No. 9: Digest of State and Federal Labor Legislation, 1936; Bulletin No. 15: Digest of State and Federal Labor Legislation, 1937; Bulletin No. 19: Digest of State and Federal Labor Legislation, 1938; Bulletin No. 32: Digest of State and Federal Labor Legislation, 1939; and Bulletin No. 40: Digest of State and Federal Labor Legislation, 1940.

¹⁰ Bulletin No. 39: Handbook of Federal Labor Legislation, Part I, Standards on Government Contract Work and Work Financed by the United States; Part II, Labor Laws of General Application.

¹¹ Abstracted from U. S. Women's Bureau Bull. No. 173, and Special Bull. No. 1: Effective Industrial Use of Women. See the latter for experience supporting these standards.

recent practices adopted by exceptional employers. But they are basic in any program concerned with the health, efficiency, and security of woman workers.

Labor standards are not stationary but are influenced by continuously changing conditions.

Standards on Working Time

The effort to speed up production should not lead to longer hours or overtime for those already employed. Industrial history during the last World War and since proves that this is a short-sighted policy, whereas reasonable and regular hours mean more efficient workers.¹²

Standards relating to working hours should include :

1. Not more than 8 hours of work a day or 40 a week.
2. A 5-day week; 2 days of rest in 7, preferably Saturday and Sunday.
3. Meal periods of at least 30 minutes. No work period of more than 5 hours without a break for meal or rest.
4. Overtime to be avoided; if this is not possible, to be paid at the rate of time and a half or more.
5. On monotonous or high-speed jobs, a rest period of at least 10 minutes in the middle of each work period without lengthening the workday.
6. No woman to work between midnight and 6 a. m.
7. Some vacation with pay after 6 months on the job; a longer vacation after longer service.
8. Time off from the job with pay on principal legal holidays.

Standards on Wages

Living standards for workers depend directly on earnings. A good daily or weekly wage is not sufficient; employment for practically the whole of the year is necessary if workers are to earn an adequate living. On the volume of workers' yearly earnings depends their ability to buy back much of what they produce, and wage earners constitute two-thirds of all those engaged in gainful work in our country.

Wage standards should include the following :

1. Wage rates to be based on occupation, and not on the sex or race of the worker.
2. Minimum wages to be established through legislation.
3. Tipping to be abolished as an unsound method of pay; tips not to be considered as wages.
4. Cost of uniforms and their laundering, of breakage and spoilage, not to be deducted from wages but considered as a cost of production, just as are other supplies, upkeep, and breakage of machinery.
5. Training of learners to be considered a legitimate expense of industry.
6. Wages to be paid regularly and in full, preferably once a week and on a fixed day.

Standards on Working Conditions

Good plant housekeeping, including adequate health and safety protection for workers, means dollars in the pockets of the management. The following are essentials :

1. Clean, uncrowded workrooms, with scientific ventilation adequate to meet all conditions in the particular industry.

¹² See U. S. Women's Bureau, Bull. No. 43; Standard and Scheduled Hours of Work for Women in Industry; and Special Bull. No. 1.

2. Safe workrooms, frequently inspected, with effective guards against risks from machinery, danger from fire, and exposure to dust, fumes, or other health hazards met on the job.

3. Avoidance of use of poisonous substances; where these must be used, all known precautions to be taken.

4. Good natural lighting and suitable artificial lighting by means of general and individual equipment; both types adequate for the job, without glare or flickering, and insuring right quality, distribution, and direction.

5. A chair for each worker, built on posture lines and adjustable to both worker and job, wherever possible, change of posture to permit either sitting or standing.

6. Good drinking facilities, with pure cool water, convenient to workers. Individual cups or sanitary, bubbling fountains.

7. Washing facilities in convenient locations with hot and cold water, soap, and individual towels. Dressing rooms next to washrooms with adequate care of clothing. Rest rooms with beds for workers taken sick, comfortable chairs and couches for use in rest or lunch periods.

8. Toilets for women in locations convenient to workrooms; a ratio of at least 1 toilet to every 15 women.

9. Lunchrooms separate from workrooms. Hot nourishing food to be available.

10. In a large plant, a hospital room with doctor and nurse; otherwise, first-aid equipment with a responsible person in charge and the emergency services of a doctor.

11. Avoidance of repeated lifting of heavy weights or other motions taxing women's strength unduly.

Standards on Jobs Suited to Women's Physique

Though women have proved themselves able to do almost any type of work, careful consideration should be given, in planning a defense program, to their employment on processes where they have been found to be most efficient.

There are certain types of work that women do particularly well. Examples are as follows:

1. Women excel in work requiring care and constant alertness, good eyesight, and use of light instruments, such as gages, micrometers, vernier calipers—work calling for little physical exertion. These are characteristics of such jobs as inspection of castings, machinings, and finished parts, of routine powder analysis, of testing electrical equipment.

2. Women excel at work requiring manipulative dexterity and speed, but which permits the individual to set her own tempo and to work in a sitting position. These are characteristics of bench work calling for laying out work for machine operators, operating very small machines to finish small and irregular parts, assembling delicate instruments and machines, loading shells, filling powder bags.

3. Women excel in work requiring skill but little strength, either in handling parts or setting up machines. These are characteristics of drilling machines, lathes, milling machines, grinding and polishing machines operating on small parts.

4. Women operate large machines successfully on heavy work when such work, whether done by men or by women, requires the use of lifting devices and pneumatic chucks.

Standards on Industrial Home Work

Efforts should be made to abolish the industrial home-work system, with its long and irregular hours, night work, low earnings, and child labor. Since employers who use the labor of home workers can produce in direct competition with factory employers who have higher standards of hours, wages, and working conditions, home work is an unfair practice, undermining such standards.

Standards on Employer-Employee Relations

The democratic principle of trade-union organization for collective bargaining has been accepted as the fundamental basis for employer-employee relations. In union activities women must take their part and should have full representation in proportion to their numbers.

The following personnel and employment practices, already adopted by many employers, are cited as desirable:

1. A centralized personnel department responsible for the mechanics of the employment, transfer, or discharge of workers and for the establishment and maintenance of adequate working conditions.
2. The appointment, where women are employed, of a competent woman as employment executive with responsibility for conditions affecting women especially.
3. Assurance against discrimination either in hiring or on the job because of sex, race, age, or marital status.
4. Establishment of a regular system of promotions with opportunity for women to attain supervisory positions, particularly in departments employing women.
5. Technological changes, where found desirable, to be introduced with all possible effort to safeguard the interests of the workers.
6. Insurance of a steady flow of work; pay for enforced idleness while in the plant.
7. The stabilization of employment throughout the year to prevent seasonal slack periods.
8. Avoidance of speed-up systems characterized by overfatigue and high nervous tension. While efficiency changes that increase the speed of work can be partially compensated for by shorter hours, higher pay, and more frequent rest periods, nothing can restore workers' health burned out by speed-up abuses.

Standards on Practical Work Clothing for Women to Prevent Injury

The following general standards should apply on this important matter:

1. Clothing must be reasonably comfortable in any temperature in which it is worn.³
2. It must fit and not interfere with worker's movements.
3. It must afford adequate protection against the hazard for which it is designed.

Safety hats.—A large metal-products factory in the Middle West has standardized work clothing for their woman factory employees with safety in mind. The safety hat is a light comfortable cap of attractive design, confining loose hair and yet standing up from the head sufficiently so that revolving machinery cannot catch in the cap and from there into the hair.

Illustrative of the need for protective caps around moving machinery is the case of a girl whose hair caught in a machine as she leaned over to tighten it. Her head was pulled into the moving parts of the machine.

Gloves.—Protective gloves or finger stalls of material suitable to the hazard should be used where hot or sharp-edged parts are handled, and in some cases where substances used may poison the skin. Cuts and burns and skin diseases are reduced by these precautions.

Uniforms.—Uniforms sometimes are needed, as, for example, to prevent skirts from getting caught in machinery. One company has designed for its woman employees a jumper suit that fits snugly for this purpose and is provided in attractive colors. Such uniforms are useful in work such as airplane repairing, where climbing is necessary.

³ See National Safety Council, *Safety Fashions for Women in Industry*.

Shoes.—Falls are a major cause of women's injuries, ranking first in most States reporting. Major causes of these may be wet or slippery floors, unprotected stairways, cluttered aisles, and so forth, but shoes play an important part in such accidents. Thin soles, high heels, worn-out shoes are hazards. The general rules that heels must be sensible, no cut-out toes, and no bedroom slippers are sufficient in many plants.

Where special safety shoes are needed they should be provided and required. In a study of the 36 foot injuries occurring in a rubber factory in 1938 it was found that 22 could have been prevented by use of safety shoes and 7 others much reduced in severity.

Leggings, spats, and aprons.—These may be a safety necessity for certain operations. A large plate-glass company has devised a special foot protector for girls, covering the ankle and top of the foot.

Jewelry.—Jewelry may be the cause of painful injury, and should not be worn at work around machinery.

Goggles.—The necessity for goggles is evidenced by the fact that 80 percent of the 1,800 to 2,000 eye injuries occurring in New York every year are caused by flying bodies. In a metal factory employing 25,000 workers, \$25,000 was spent on goggles with a resultant saving in 2 years of \$116,000.

Labor Turn-Over

Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Factory-Labor Turn-Over, 1930 to 1941¹

In 1929, when the Bureau of Labor Statistics undertook the collection of data on labor turn-over rates, the only available material was the abbreviated series started at Brown University and later carried on by the Metropolitan Life Insurance Co. The coverage, at that time, included about 400 manufacturing establishments employing some 700,000 workers. Subsequently, with the voluntary cooperation of representative manufacturing concerns, the Bureau of Labor Statistics has expanded the coverage to include more than 7,000 reporting firms with employment rolls of approximately 3,000,000.

Definition of Terms and Method of Computing Rates

The monthly reports published by the Bureau show the quit, discharge, lay-off, total separation, and accession rates per 100 employees.

The terms are defined by the Bureau of Labor Statistics as follows:

An accession is the hiring of a new employee or the rehiring of an old employee.

A separation is a termination of employment of any of the three following kinds: Quits, lay-offs, and discharges.

A quit is a termination of employment, generally initiated by the worker because of his desire to leave, but sometimes due to his physical incapacity.

A discharge is a termination of employment at the will of the employer, with prejudice to the worker because of some fault on the part of the worker.

A lay-off is a termination of employment at the will of the employer, without prejudice to the worker. A permanent lay-off, a long lay-off, an indefinite lay-off, and a short, definite lay-off with the name of the worker removed from the pay roll are counted by the Bureau as lay-offs; but a short, definite lay-off with the name of the worker remaining on the pay roll is not counted as a separation. (It is recognized that some companies retain persons on the pay roll and give them extended vacations when business is slow; other companies take them off the pay roll but promise to reemploy them when there is work. This variation in policy interferes with complete comparability in the monthly reports received from the companies and causes some distortion in the general lay-off rate.)

Transfers from one plant to another of the same company are not considered accessions or separations.

The items of separation and accession are divided by the average number on the pay roll and multiplied by 100 to get the rate per 100 employees for the month. The average number on the pay roll is obtained by adding the number of workers on the pay roll on the first day and the last day covered by the report, and dividing the total by two. In compiling the rates the actual numbers for the several establishments are added and the general rates computed from the grand total. Thus, each establishment has an influence or "weight" in the rate in proportion to its size.

¹ From the Monthly Labor Review for September 1940, with later data.

If an equivalent annual rate is desired, the monthly rate can be multiplied by 11.77 if the month has 31 days; by 12.17 if it is a 30-day month; by 13.04 if it is a 28-day month; and by 12.62 if it is a 29-day month.

In comparing monthly rates the number of days in the month should be considered, as no adjustment is made in the monthly rate because of this factor. With the adjustment in the equivalent yearly rate this latter figure affords a more exact comparison as between months.

Summary of Annual Labor Turn-Over in Specified Industries

One of the more important considerations in turn-over is the quit rate. It reflects in considerable degree the attitude of the worker toward his employment and may not be affected by the policies prescribed by the employer. As it has a tendency to vary inversely with the lay-off rate, it may be considered a barometer of new job opportunities within the various industries and in the different localities. Extremely low quit rates prevailed in all industries in 1932. This was particularly true in industries manufacturing construction material, such as brick, tile, and terra cotta, showing an annual quit rate of only 3.41 per 100 employees, and sawmills with 9.48, both rates being the lowest reported over the period for which the information is available. Beginning with 1933, increased production occurred in practically all industries until the latter part of 1937. In 1938 the quit rates in the majority of industries for which data are available declined even below the 1932 level. Sharp increases in the quit rates, however, were shown in a number of industries in 1939 and 1940.

Discharges represent only a small percentage of the total separations. The rate for this type of separations ranged from a high point of 5.53 per 100 employees in sawmills in 1931 to a low of 0.29 in rubber boots and shoes in 1938.

Available records indicate that beginning with 1930, an important change occurred in the nature of separations. Prior to that year the greater percentage of separations were voluntary and, therefore, determined by the worker. After 1930, the voluntary separations decreased and lay-offs predominated. As lay-offs are initiated by the employer and usually are due to lack of work, such an increase indicates that the conditions of the labor market had become less favorable to the employee. Previously when a worker left his job voluntarily, he usually felt assured of another and probably better position. As the lay-offs increased, job opportunities declined, and this condition had an impression not only on workers in industries reporting a large number of lay-offs but in industries with a comparatively stable working force.

During the depression, the seriousness of the condition in some industries was reflected by the fact that the rate of lay-offs reported annually exceeded the average number of workers on the pay roll. Notable for high lay-off rates were the brick, tile, and terra cotta industry, which reported a rate of 132.78 in 1932, and the slaughtering and meat-packing industry, with a rate of 111.97 in 1934. No records are available as to the period of unemployment or the number

of times the same employees were reported as lay-offs. Lay-off rates decreased generally until 1937 and 1938. Following the rise in these two years, decreases were again shown in nearly all industries in 1939 and 1940.

Because of seasonal influences in many industries, high annual separation rates are often accompanied by high annual accession rates. At the same time that slaughtering and meat packing showed a total separation rate of 130.30 in 1934, the accession rate reached the highest point (133.42) of a 9-year period. Nine-year peaks were also reached in 1934, for automobile and bodies, in both the total separations and accessions, with rates of 117.30 and 144.23, respectively. On the other hand, the iron and steel industry reported a total separation rate of only 14.94 in 1939 and accessions at the rate of 36.11, indicating continuous operations and some expansion.

Annual quit, discharge, lay-off, total separation, and accession rates for 33 important manufacturing industries for which adequate data are available are shown in table 1 for the years 1932 to 1940, inclusive. The figures for "all manufacturing" include, in addition, information concerning many other industries for which separate data by industry are not given. Current figures by months are published in the Monthly Labor Review.

TABLE 1.—Annual labor turn-over rates (per 100 employees) in all manufacturing and in 33 separate industries

QUIT RATES									
Industry	1932	1933	1934	1935	1936	1937	1938	1939	1940
All manufacturing.....	8.34	10.66	10.67	10.37	13.02	14.97	7.46	9.52	12.54
Aircraft.....								15.29	28.00
Automobiles and bodies.....	10.06	14.50	22.21	15.56	15.86	13.68	4.87	10.09	11.90
Automobile parts.....	8.99	15.99	19.47	13.36	19.12	20.91	5.86	8.33	13.56
Boots and shoes.....	11.55	11.55	10.46	7.93	9.88	12.72	8.96	8.93	9.88
Brick, tile, and terra cotta.....	3.41	6.43	11.61	19.45	14.20	15.00	7.50	9.12	12.17
Cast-iron pipe.....								7.32	8.41
Cement.....							5.61	4.95	6.24
Cigars and cigarettes.....	22.17	16.17	16.16	14.32	18.78	21.36	12.99	15.70	17.81
Cotton manufacturing.....	13.11	20.08	18.62	13.98	17.19	18.03	11.89	16.65	21.05
Electrical machinery.....	5.07	7.12	5.77	7.01	10.32	13.62	6.57	7.63	11.57
Foundries and machine shops.....	3.71	6.19	8.20	9.06	13.92	14.18	6.26	6.61	11.40
Furniture.....	5.20	9.31	7.42	8.57	15.72	20.86	10.02	9.40	13.79
Glass.....							5.68	4.34	7.42
Hardware.....	4.65	5.96	6.71	10.86	10.13	17.28	5.56	8.05	16.76
Iron and steel.....	7.10	7.67	8.92	9.42	12.48	25.56	4.85	4.92	8.67
Knit goods.....						17.39	9.73	11.58	11.35
Machine tools.....							5.55	9.84	16.95
Men's clothing.....	11.25	9.92	9.20	9.47	10.50	11.73	8.42	9.06	10.81
Paints and varnishes.....							6.13	10.88	9.54
Paper and pulp.....							5.62	7.39	10.02
Petroleum refining.....	4.82	5.62	5.79	5.74	7.41	6.38	4.28	4.91	6.06
Printing: Book and job.....							4.76	5.60	9.35
Printing: Newspapers.....							3.80	3.57	5.54
Radios and phonographs.....							12.77	19.38	20.51
Rayon and allied products.....						10.83	7.65	6.98	11.38
Rubber boots and shoes.....							7.10	9.58	13.74
Rubber tires.....	5.98	8.93	6.02	5.32	8.19	8.17	6.27	5.86	6.88
Sawmills.....	9.48	17.11	14.41	35.87	21.54	27.66	14.75	16.47	17.17
Shipbuilding.....								9.07	16.13
Silk and rayon goods.....							12.03	13.18	14.30
Slaughtering and meat packing.....	10.48	11.38	13.72	9.01	13.94	10.78	6.74	7.22	11.01
Steam, hot-water heating apparatus.....							6.00	8.52	13.11
Woolen and worsted goods.....						12.56	9.36	13.10	18.58

TABLE 1.—Annual labor turn-over rates (per 100 employees) in all manufacturing and in 33 separate industries—Continued

DISCHARGE RATES									
Industry	1932	1933	1934	1935	1936	1937	1938	1939	1940
All manufacturing	1.96	2.49	2.24	2.29	2.63	2.38	1.29	1.52	1.84
Aircraft								3.38	5.08
Automobiles and bodies	2.65	4.81	4.68	3.21	3.08	2.24	.75	.84	.80
Automobile parts	1.92	3.91	4.90	3.94	5.17	3.96	1.27	1.90	2.99
Boots and shoes	2.74	2.93	2.64	2.25	2.63	2.23	1.41	1.50	1.34
Brick, tile, and terra cotta	3.01	1.95	2.40	1.85	2.85	3.02	1.46	1.71	1.87
Cast-iron pipe								1.76	2.15
Cement							1.59	.81	1.03
Cigars and cigarettes	4.08	3.61	2.74	2.67	2.48	1.57	1.37	1.67	1.94
Cotton manufacturing	3.24	4.56	3.73	3.25	3.96	3.02	2.08	2.70	2.50
Electrical machinery	1.22	1.16	1.43	1.40	1.83	2.11	.77	.85	1.30
Foundries and machine shops	1.23	2.00	2.37	3.07	3.70	3.36	.96	1.18	2.36
Furniture	1.79	3.72	2.77	2.72	3.90	3.76	2.19	2.55	2.89
Glass							1.14	1.08	.98
Hardware	.90	1.12	1.28	4.02	2.15	2.51	.88	2.00	1.73
Iron and steel	.66	1.28	1.07	1.02	1.10	1.00	.66	.65	1.06
Knit goods						1.11	1.14	1.55	1.40
Machine tools							.96	1.42	4.73
Men's clothing	1.07	1.43	1.16	1.41	.98	.86	.80	1.15	1.86
Paints and varnishes							1.36	2.19	2.58
Paper and pulp							1.74	1.46	1.49
Petroleum refining	1.26	.95	1.68	1.37	1.33	.98	.62	.85	.75
Printing: Book and job							1.74	1.72	2.04
Printing: Newspapers							.82	1.94	.94
Radios and phonographs							1.63	2.63	2.06
Rayon and allied products						3.04	2.43	1.70	1.51
Rubber boots and shoes							.29	.88	1.73
Rubber tires	1.11	1.58	.69	.62	.91	1.05	.48	.73	.61
Sawmills	4.10	5.09	5.40	4.36	4.04	3.48	2.50	2.30	2.31
Shipbuilding								1.54	3.50
Silk and rayon goods							.95	1.02	1.17
Slaughtering and meat packing	3.91	4.58	4.61	2.80	3.11	2.49	1.84	1.91	2.17
Steam, hot-water heating apparatus							1.20	1.28	2.06
Woolen and worsted goods						1.39	.88	1.54	1.53

LAY-OFF RATES¹

Industry	1932	1933	1934	1935	1936	1937	1938	1939	1940
All manufacturing	41.68	32.23	36.26	30.08	24.70	35.76	40.47	26.67	25.89
Aircraft								19.91	12.35
Automobiles and bodies	86.16	77.65	90.41	51.46	58.92	77.09	89.40	66.51	56.72
Automobile parts	87.02	76.12	92.64	58.71	39.45	84.12	91.01	66.52	55.01
Boots and shoes	26.22	25.06	25.37	23.97	23.34	37.33	30.51	27.31	25.86
Brick, tile, and terra cotta	132.78	96.42	96.67	74.68	46.17	67.26	66.99	45.89	46.12
Cast-iron pipe								13.02	9.03
Cement							77.67	50.07	40.91
Cigars and cigarettes	20.44	16.82	34.31	32.24	26.30	22.05	28.89	22.69	16.81
Cotton manufacturing	46.23	31.85	35.01	38.88	20.86	34.22	36.34	20.34	26.58
Electrical machinery	51.97	27.99	21.34	18.42	14.62	28.53	44.91	17.85	12.37
Foundries and machine shops	41.45	31.36	37.76	28.51	19.06	30.16	44.97	17.89	15.98
Furniture	54.88	53.28	50.24	33.91	32.38	46.68	49.14	30.90	27.37
Glass							36.78	30.27	24.47
Hardware	35.14	19.14	14.77	8.03	13.28	35.21	31.70	18.81	14.20
Iron and steel	26.89	17.52	19.91	12.44	8.52	23.60	26.87	9.37	14.31
Knit goods						22.96	26.23	16.90	22.54
Machine tools							31.60	6.01	3.09
Men's clothing	31.69	26.80	31.48	28.86	34.36	51.83	63.19	40.34	45.89
Paints and varnishes							17.48	13.17	11.90
Paper and pulp							13.01	12.18	11.66
Petroleum refining	25.28	19.89	31.85	25.03	24.97	25.15	19.92	19.34	14.31
Printing: Book and job							40.31	39.78	39.73
Printing: Newspapers							18.46	19.10	17.39
Radios and phonographs							60.64	43.07	38.84
Rayon and allied products						33.76	30.95	12.27	7.84
Rubber boots and shoes							30.73	26.47	19.00
Rubber tires	18.15	19.07	22.79	20.68	7.50	27.82	32.66	13.64	20.58
Sawmills	77.38	51.94	67.99	53.20	52.10	66.99	57.13	37.73	35.07
Shipbuilding								20.39	48.87
Silk and rayon goods							40.90	36.71	46.95
Slaughtering and meat packing	68.77	70.33	111.97	94.18	71.32	76.86	80.52	70.86	70.25
Steam, hot-water heating apparatus							21.54	13.88	10.11
Woolen and worsted goods						68.52	77.65	50.29	52.36

¹ Including temporary, indeterminate, and permanent lay-offs.

TABLE 1.—Annual labor turn-over rates (per 100 employees) in all manufacturing and in 33 separate industries—Continued

TOTAL SEPARATION RATES									
Industry	1932	1933	1934	1935	1936	1937	1938	1939	1940
All manufacturing.....	51.98	45.38	49.17	42.74	40.35	53.11	49.22	37.71	40.27
Aircraft.....	.....	.....	.....	.....	.....	.....	.....	38.58	45.43
Automobiles and bodies.....	98.87	96.96	117.30	70.23	77.86	93.01	95.02	77.44	69.42
Automobile parts.....	97.93	96.02	117.01	76.01	63.74	108.99	98.14	76.75	71.56
Boots and shoes.....	40.51	39.54	38.47	34.15	35.85	52.28	40.88	37.74	37.08
Brick, tile, and terra cotta.....	139.20	104.80	110.68	95.88	63.22	85.28	75.95	56.72	60.16
Cast-iron pipe.....	.....	.....	.....	.....	.....	.....	.....	21.10	19.59
Cement.....	.....	.....	.....	.....	.....	.....	84.87	55.83	48.18
Cigars and cigarettes.....	46.69	36.60	53.21	49.23	47.56	44.98	43.25	40.06	36.56
Cotton manufacturing.....	62.58	56.49	57.36	56.11	41.41	55.27	50.31	39.69	50.13
Electrical machinery.....	68.26	36.27	28.54	26.83	26.77	44.26	52.19	26.33	25.24
Foundries and machine shops.....	46.39	39.55	48.33	40.64	36.68	47.70	52.19	25.68	29.74
Furniture.....	61.87	66.31	60.43	45.20	52.00	71.30	61.35	42.85	44.05
Glass.....	.....	.....	.....	.....	.....	.....	43.60	35.69	32.87
Hardware.....	40.69	26.22	22.76	22.91	25.56	55.00	38.14	28.86	32.69
Iron and steel.....	34.65	26.47	29.90	22.88	22.10	50.16	32.38	14.94	24.04
Knit goods.....	.....	.....	.....	.....	.....	41.46	37.10	30.03	35.29
Machine tools.....	.....	.....	.....	.....	.....	.....	38.11	17.27	24.77
Men's clothing.....	44.01	38.15	41.84	39.74	45.84	64.42	72.41	50.55	58.56
Paints and varnishes.....	.....	.....	.....	.....	.....	.....	24.97	26.24	24.02
Paper and pulp.....	.....	.....	.....	.....	.....	28.75	20.37	21.03	23.17
Petroleum refining.....	31.36	26.46	39.32	32.14	33.71	32.51	24.82	25.10	21.12
Printing: Book and job.....	.....	.....	.....	.....	.....	.....	46.81	47.10	51.12
Printing: Newspapers.....	.....	.....	.....	.....	.....	.....	23.08	24.61	23.87
Radios and phonographs.....	.....	.....	.....	.....	.....	.....	75.04	65.08	61.41
Rayon and allied products.....	.....	.....	.....	.....	.....	47.63	41.03	20.95	20.73
Rubber boots and shoes.....	.....	.....	.....	.....	.....	.....	38.12	36.93	34.47
Rubber tires.....	25.24	29.58	29.50	26.62	16.60	37.04	39.41	20.23	28.07
Sawmills.....	90.96	74.14	87.80	93.43	77.68	98.13	74.38	56.50	54.55
Shipbuilding.....	.....	.....	.....	.....	.....	.....	.....	31.00	68.50
Silk and rayon goods.....	.....	.....	.....	.....	.....	.....	53.88	50.91	62.42
Slaughtering and meat packing.....	83.16	86.29	130.30	105.99	88.37	90.13	89.10	79.99	83.43
Steam, hot-water heating apparatus.....	.....	.....	.....	.....	.....	.....	28.74	23.68	25.28
Woolen and worsted goods.....	.....	.....	.....	.....	.....	82.47	87.89	64.93	72.47

ACCESSION RATES

All manufacturing.....	39.82	65.20	56.91	50.05	52.16	42.59	46.16	48.85	52.72
Aircraft.....	.....	.....	.....	.....	.....	.....	.....	111.66	120.42
Automobiles and bodies.....	81.17	116.59	144.23	84.90	88.92	72.00	89.66	81.77	79.25
Automobile parts.....	81.70	124.64	125.23	91.61	84.43	72.04	101.95	92.71	90.15
Boots and shoes.....	39.64	46.36	41.55	38.21	37.86	43.19	44.11	39.74	37.56
Brick, tile, and terra cotta.....	92.72	126.80	108.98	106.62	83.50	64.15	84.08	73.05	63.64
Cast-iron pipe.....	.....	.....	.....	.....	.....	.....	.....	27.62	30.09
Cement.....	.....	.....	.....	.....	.....	.....	67.83	65.57	57.90
Cigars and cigarettes.....	39.16	59.30	52.00	33.47	60.52	42.80	40.46	41.10	38.56
Cotton manufacturing.....	67.48	83.56	53.69	52.33	49.81	38.90	52.25	47.50	52.74
Electrical machinery.....	11.86	49.02	32.72	38.44	53.10	43.08	30.64	43.81	53.17
Foundries and machine shops.....	30.23	63.40	58.88	53.62	56.12	46.43	29.84	44.56	45.67
Furniture.....	50.36	85.81	58.69	57.28	68.98	52.74	57.77	54.95	50.29
Glass.....	.....	.....	.....	.....	.....	.....	52.35	37.42	39.45
Hardware.....	12.12	29.65	27.68	49.35	43.25	38.55	30.82	39.46	49.16
Iron and steel.....	17.86	54.91	33.98	29.58	38.85	32.72	21.36	36.11	31.98
Knit goods.....	.....	.....	.....	.....	.....	32.24	39.16	33.76	35.90
Machine tools.....	.....	.....	.....	.....	.....	.....	14.80	52.14	56.41
Men's clothing.....	45.73	45.13	38.81	46.78	52.16	46.33	73.17	53.93	54.73
Paints and varnishes.....	.....	.....	.....	.....	.....	.....	20.71	34.75	30.51
Paper and pulp.....	.....	.....	.....	.....	.....	.....	29.62	28.07	24.21
Petroleum refining.....	23.94	44.46	38.28	31.55	38.30	33.42	19.49	31.08	21.83
Printing: Book and job.....	.....	.....	.....	.....	.....	.....	44.09	51.10	54.27
Printing: Newspapers.....	.....	.....	.....	.....	.....	.....	23.80	24.83	26.17
Radios and phonographs.....	.....	.....	.....	.....	.....	.....	82.92	78.77	66.00
Rayon and allied products.....	.....	.....	.....	.....	.....	28.82	51.18	28.07	30.71
Rubber boots and shoes.....	.....	.....	.....	.....	.....	.....	40.45	35.28	52.32
Rubber tires.....	15.24	62.43	28.99	20.86	35.12	12.38	30.90	31.95	30.55
Sawmills.....	75.30	108.79	93.35	103.89	82.56	77.03	77.13	64.96	61.56
Shipbuilding.....	.....	.....	.....	.....	.....	.....	.....	62.48	103.64
Silk and rayon goods.....	.....	.....	.....	.....	.....	.....	68.18	50.19	50.51
Slaughtering and meat packing.....	75.92	112.26	133.42	87.51	99.37	84.86	89.92	89.05	92.50
Steam, hot-water heating apparatus.....	.....	.....	.....	.....	.....	.....	25.41	34.00	49.16
Woolen and worsted goods.....	.....	.....	.....	.....	.....	48.61	87.01	67.14	80.20

Monthly Turn-Over Rates in All Manufacturing, January 1930 to December 1941

Labor turn-over rates are shown in table 2 for all manufacturing industries combined, by months, from 1930 through 1941.

TABLE 2.—*Monthly and annual labor turn-over rates (per 100 employees) in representative factories, in 144 industries, January 1930 to December 1941*

Class of rates and year	Year	January	February	March	April	May	June	July	August	September	October	November	December
Separations:													
Quits:													
1930.....	18.64	1.85	1.60	1.94	2.11	2.01	1.85	1.35	1.40	1.50	1.29	0.90	0.84
1931.....	11.39	.74	.74	.94	1.14	1.12	1.02	1.10	1.05	1.16	1.00	.72	.66
1932.....	8.34	.71	.71	.86	.91	.68	.66	.63	.67	.76	.65	.54	.56
1933.....	10.66	.65	.49	.53	.63	.84	1.03	1.25	1.22	1.65	.87	.78	.72
1934.....	10.67	.90	.85	.93	1.11	1.01	.94	.70	.75	1.55	.73	.62	.58
1935.....	10.37	.76	.73	.75	.93	1.21	.83	.90	.86	1.05	.89	.77	.69
1936.....	13.02	.71	.68	.86	1.16	1.06	1.13	1.15	1.23	1.57	1.29	1.13	1.05
1937.....	14.97	1.27	1.19	1.43	1.38	1.37	1.89	1.25	1.23	1.59	1.05	.72	.60
1938.....	7.46	.52	.49	.61	.59	.62	.61	.59	.65	.82	.78	.60	.58
1939.....	9.52	.85	.64	.82	.76	.68	.73	.70	.82	1.07	.93	.83	.69
1940.....	12.54	.74	.73	.78	.84	.87	.90	.96	1.21	1.58	1.51	1.28	1.14
1941.....	27.78	1.62	1.76	2.13	2.45	2.54	2.22	2.55	2.71	3.06	2.44	1.83	2.27
Discharges:													
1930.....	5.04	.54	.62	.60	.53	.48	.46	.32	.36	.36	.32	.24	.21
1931.....	2.72	.19	.20	.26	.31	.28	.23	.25	.22	.24	.21	.17	.16
1932.....	1.96	.19	.18	.21	.22	.16	.14	.14	.14	.14	.14	.15	.15
1933.....	2.49	.15	.13	.14	.15	.18	.26	.26	.31	.27	.24	.22	.18
1934.....	2.24	.18	.19	.21	.23	.22	.18	.19	.19	.16	.19	.15	.15
1935.....	2.29	.18	.18	.17	.20	.17	.20	.20	.21	.19	.21	.20	.18
1936.....	2.63	.20	.17	.19	.21	.20	.23	.23	.27	.26	.24	.21	.22
1937.....	2.38	.21	.22	.24	.23	.21	.19	.21	.19	.19	.19	.16	.14
1938.....	1.29	.11	.11	.11	.10	.13	.11	.09	.10	.12	.12	.10	.09
1939.....	1.52	.10	.10	.13	.10	.13	.12	.12	.14	.14	.17	.15	.12
1940.....	1.84	.14	.16	.15	.13	.13	.14	.14	.16	.16	.19	.18	.16
1941.....	3.04	.18	.19	.21	.25	.24	.26	.29	.30	.31	.28	.24	.29
Lay-offs: ¹													
1930.....	35.97	2.70	2.50	2.83	2.57	2.68	3.00	4.17	3.99	3.14	2.88	2.77	2.74
1931.....	34.27	1.95	1.75	1.75	1.96	2.43	3.84	3.32	2.40	4.22	5.01	3.03	2.61
1932.....	41.68	2.45	2.43	3.30	4.60	4.27	4.58	4.47	3.04	3.57	2.67	2.70	3.35
1933.....	32.23	2.76	3.78	3.93	2.00	1.34	1.18	1.88	1.87	2.34	3.47	3.79	3.79
1934.....	36.26	2.35	1.85	2.08	2.04	3.65	3.48	2.96	3.56	3.41	4.38	3.78	2.72
1935.....	30.08	2.10	1.81	2.32	2.66	3.00	3.46	2.57	2.70	1.95	2.03	2.58	2.89
1936.....	40.06	2.66	2.21	1.53	1.92	2.06	1.92	1.84	3.23	1.47	1.72	1.70	2.14
1937.....	35.76	1.90	1.44	1.53	1.48	1.79	1.94	2.06	2.57	2.84	4.45	5.99	7.77
1938.....	40.47	5.45	3.79	3.74	3.85	3.82	3.69	3.13	2.33	2.62	2.40	2.44	3.21
1939.....	28.67	2.24	1.87	2.23	2.60	2.67	2.46	2.54	2.05	1.58	1.81	1.97	2.65
1940.....	25.89	2.55	2.67	2.53	2.69	2.78	2.32	2.25	1.63	1.48	1.53	1.60	1.86
1941.....	15.86	1.61	1.20	1.06	1.19	1.08	1.03	1.40	1.13	1.16	1.41	1.44	2.15
Total separations:													
1930.....	59.65	5.09	4.72	5.37	5.21	5.17	5.31	5.84	5.75	5.00	4.49	3.91	3.79
1931.....	48.38	2.88	2.69	2.95	3.41	3.83	5.09	4.67	3.67	5.62	6.22	3.92	3.43
1932.....	51.98	3.35	3.32	4.37	5.73	5.11	5.63	5.24	3.85	4.47	3.46	3.39	4.06
1933.....	45.38	3.56	4.40	4.60	2.78	2.36	2.47	3.49	3.40	4.26	4.58	4.79	4.69
1934.....	49.17	3.43	2.89	3.22	3.38	4.88	4.60	3.85	4.50	5.12	5.30	4.55	3.45
1935.....	42.74	3.04	2.79	3.24	3.73	4.38	4.49	3.67	3.77	3.10	3.13	3.55	3.76
1936.....	40.36	3.57	3.06	2.88	3.29	3.32	3.28	3.22	4.73	3.30	3.25	3.04	3.41
1937.....	53.11	3.38	2.85	3.20	3.09	3.37	4.02	3.52	3.99	4.62	6.69	6.87	8.51
1938.....	49.22	6.08	4.39	4.46	4.54	4.57	4.41	3.81	3.08	3.56	3.30	3.14	3.88
1939.....	37.71	3.19	2.61	3.18	3.46	3.48	3.31	3.36	3.01	2.79	2.91	2.95	3.46
1940.....	40.27	3.43	3.56	3.46	3.66	3.78	3.36	3.35	3.00	3.22	3.23	3.06	3.36
1941.....	46.68	3.41	3.15	3.40	3.89	3.86	3.71	4.24	4.14	4.53	4.13	3.51	4.71
Accessions:													
1930.....	37.02	3.95	3.94	4.15	3.55	3.28	2.92	2.51	2.71	3.27	2.56	2.05	2.13
1931.....	36.59	2.97	2.82	3.67	3.06	2.79	2.41	3.02	2.60	3.58	2.75	3.63	3.29
1932.....	39.82	4.15	2.75	2.75	2.76	2.59	2.70	3.01	4.21	5.04	3.72	3.07	3.07
1933.....	65.20	3.48	2.56	2.22	4.87	7.21	10.21	9.48	8.59	5.53	3.97	3.71	3.37
1934.....	56.91	5.81	6.71	6.33	5.18	4.19	3.58	3.71	3.24	3.61	4.09	4.32	6.14
1935.....	50.05	6.33	4.23	3.79	3.63	3.01	3.18	4.17	4.60	4.95	5.23	3.63	3.30
1936.....	52.16	3.65	2.95	3.97	4.46	4.05	4.49	4.94	4.72	5.09	4.83	4.60	4.41
1937.....	42.59	4.60	4.71	4.74	4.04	4.56	3.69	3.36	3.36	3.78	2.84	1.79	2.12
1938.....	46.16	3.78	3.13	3.13	2.58	2.84	3.44	4.81	5.29	4.51	5.19	4.24	3.22
1939.....	48.85	4.09	3.06	3.34	2.93	3.29	3.92	4.16	5.06	6.17	5.89	4.10	2.84
1940.....	52.72	3.74	2.98	2.94	3.05	3.36	4.76	4.77	6.63	6.21	5.52	4.65	4.11
1941.....	64.51	5.54	4.92	5.62	6.04	5.95	6.31	6.00	6.43	5.16	4.87	3.81	4.76

Including temporary, indeterminate, and permanent lay-offs.

More Detailed Classification of Turn-Over Rates

Beginning with January 1940, two important changes were made in the presentation of labor turn-over data: First, separate rates were computed for miscellaneous separations, i. e., separations due to death, permanent disability, retirements on pensions, and similar reasons. (See table 3.) This type of separation had formerly been reported under the classification "quits and miscellaneous separations." Second, accessions which had formerly been published as totals only were separated into rehiring, i. e., former employees hired after a separation not exceeding 3 months, and other employees hired regardless of whether or not they were formerly employed by the company. Table 3 presents these special classifications for all manufacturing industries from January 1940 to December 1941.

TABLE 3.—Monthly labor turn-over rates in representative factories in 135 industries¹

Class of turn-over and year	January	February	March	April	May	June	July	August	September	October	November	December
Separations:												
Quits:												
1940.....	0.63	0.62	0.67	0.74	0.77	0.78	0.85	1.10	1.37	1.31	1.10	0.99
1941.....	1.31	1.33	1.70	2.08	2.20	2.06	2.25	2.46	2.81	2.11	1.57	1.75
Discharges:												
1940.....	.14	.16	.15	.13	.13	.14	.14	.16	.16	.19	.18	.16
1941.....	.18	.19	.21	.25	.24	.26	.29	.30	.31	.28	.24	.29
Lay-offs: ¹												
1940.....	2.55	2.67	2.53	2.69	2.78	2.32	2.25	1.63	1.48	1.53	1.60	1.86
1941.....	1.61	1.20	1.06	1.19	1.08	1.03	1.40	1.13	1.16	1.41	1.44	2.15
Miscellaneous separations: ²												
1940.....	.11	.11	.11	.10	.10	.12	.11	.11	.21	.20	.18	.15
1941.....	.31	.43	.43	.37	.34	.36	.30	.25	.25	.33	.26	.52
Total:												
1940.....	3.43	3.56	3.46	3.66	3.78	3.36	3.35	3.00	3.22	3.23	3.06	3.16
1941.....	3.41	3.15	3.40	3.89	3.86	3.71	4.24	4.14	4.53	4.13	3.51	4.71
Accessions:												
Rehirings:												
1940.....	1.96	1.26	1.38	1.42	1.49	2.06	1.94	3.04	2.20	1.22	1.18	1.13
1941.....	1.45	1.08	1.24	1.04	.92	.90	1.04	1.11	.87	.86	.79	.94
New hirings:												
1940.....	1.78	1.72	1.56	1.63	1.87	2.70	2.83	3.59	4.01	4.30	3.47	2.98
1941.....	4.09	3.84	4.38	5.00	5.03	5.41	4.96	4.32	4.29	4.01	3.12	3.82
Total:												
1940.....	3.74	2.98	2.94	3.05	3.36	4.76	4.77	6.63	6.21	5.52	4.65	4.11
1941.....	5.54	4.92	5.62	6.04	5.95	6.31	6.00	5.43	5.16	4.87	3.91	4.76

¹ Including temporary, indeterminate, and permanent lay-offs.

² Beginning with September 1940, workers leaving to enter the Army or Navy are included in "miscellaneous separations."

Studies of Labor Turn-Over in Selected Industries

In addition to the current reports on labor turn-over, the Bureau of Labor Statistics has from time to time prepared special articles of labor turn-over in particular industries. These studies have been published in the Monthly Labor Review as follows: Automobile industry, 1931-1932 (June 1933, p. 1316); boot and shoe industry, 1931-1932 (October 1933, p. 893); cotton manufacturing, 1931-1932 (November 1933, p. 1152); foundries and machine shops, 1931-1932 (February 1934, p. 347); iron and steel, 1932-1933 (June 1934, p. 1393); furniture, 1932-1933 (August 1934, p. 400); slaughtering and meat packing, 1932-1933 (November 1934, p. 1164); men's cloth-

ing industry, 1932-1933 (March 1935, p. 709); sawmills, 1933-1934 (May 1935, p. 1285); automobiles and bodies, 1934-1935 (May 1936, p. 1319); furniture, 1934-1935 (July 1936, p. 109); iron and steel, 1934-1935 (September 1936, p. 647); boot and shoe industry, 1934-1935 (January 1937, p. 150); cotton manufacturing, 1935-1936 (March 1937, p. 680); foundries and machine shops, 1935-1936 (October 1937, p. 940); slaughtering and meat packing, 1936-1937 (April 1938, p. 933); petroleum refining, 1935-1936 (June 1938, p. 1414); automobile parts, 1936-1937 (January 1939, p. 197); iron and steel, 1937-1938 (February 1939, p. 421); cotton manufacturing, 1937-1938 (July 1939, p. 213); foundries and machine shops, 1937-1938 (September 1939, p. 728); sawmills, 1937-1938 (January 1940, p. 218); boot and shoe industry, 1938-1939 (May 1940, p. 1238); factory labor turn-over, 1931-1939 (September 1940, p. 704); rubber industry, 1938-1939 (April 1941, p. 956).



Labor Turn-Over in the Machine-Tool Industry ¹

A review of labor turn-over rates for the period, January 1938 to July 1940, reveals that under normal conditions, separation rates are lower in the machine-tool industry than for manufacturing industries as a whole. During 1938, the lay-off rate in the machine-tool industry was 31.60 per hundred employees or about one-fifth less than the average for all manufacturing industries. By comparison, the lay-off rate in the automobile-parts industry in 1938 was 91.01 and in electrical machinery it was 44.91.

Several factors contribute to this better-than-average labor situation in the machine-tool industry, some of which derive from general business conditions in the manufacturing industries, while other factors are inherent within the machine-tool industry itself. When industry, in general, places orders for machine tools, it is prepared to do so considerably in advance of actual needs. Often, months are required for design, building, and delivery, and the machine-tool builder is therefore presented with an opportunity for advance planning of production, a factor lacking in many other industries. Such planning of work schedules, of course, means fewer lay-offs and a generally better labor situation. Planned production is also possible in the case of a machine-tool builder who caters to a variety of industries. This is particularly true when the machine-tool requirements of these industries reach well-spaced seasonal peaks. One fair-sized firm manufacturing a variety of small tools in New England has been able to maintain, since January 1939, a monthly lay-off rate of only 0.16 per hundred employees, whereas the average for the whole machine-tool industry during the period was 0.45.

Workers with the special skills required in the machine-tool industry are not easily replaced, and lay-offs are consequently less frequent. Although the skills used in the manufacture of machine tools are as varied as in other industries, the proportion of highly skilled workers in this industry is among the highest found. It has been estimated that between 50 and 75 percent of the workers are highly skilled, depending on the work of the plant. Surveys con-

¹ Abstract of an article prepared by Myer H. Naigles, of the Bureau of Labor Statistics, in the *Monthly Labor Review* for November 1940.

ducted by the Bureau of Labor Statistics in 1938 and 1939 showed that in the iron and steel industry 34 percent of the workers, and in machine shops 38 percent, were considered skilled. A worker who requires a training period of from 2 to 5 years is not laid off if a work schedule can be arranged to assure at least fairly permanent employment. It is the boast of a machine-tool company in Ohio that many of its workers have been employed by it for over 15 years.

Effects of Increased Production Upon Turn-Over

In periods of increasing manufacturing activity, the scarcity of qualified machine-tool workers has an important effect on the turn-over rates. In 1938, the average monthly lay-off rate was 2.63 per hundred employees. In 1939 with the general improvement in manufacturing activity, the average monthly lay-off rate declined to 0.50, and during the first 7 months of 1940 it declined still further to 0.37. Accessions in 1938 averaged 1.23; in 1939, 4.35; and in the first 7 months of 1940, 4.55 workers per hundred employees. Although high accessions are often concurrent with low lay-offs, the latter rate seldom reaches as low a level as this industry shows.

That the number of new workers employed has increased tremendously is shown by the high accession rates and low lay-off rates and also by the index of employment in the machine-tool industry. At the peak of employment in 1937, the Bureau of Labor Statistics computed the index of employment for the industry at 176.6 (1923-25=100). In August 1938 the index had declined to 113.2. By May 1940, however, it had reached a new high of 221.1.

Monthly labor turn-over rates in the machine-tool industry, January 1938 to July 1940¹

Class of turn-over and year	January	February	March	April	May	June	July	August	September	October	November	December
Separations:												
Quits:												
1940.....	1.05	1.08	1.30	1.25	1.30	1.35	1.34	.....	.....	.....	.....	.....
1939.....	.44	.52	.56	.64	.75	.60	.61	0.79	1.38	1.38	1.26	0.91
1938.....	.41	.46	.38	.63	.52	.45	.48	.35	.56	.52	.38	.41
Discharges:												
1940.....	.45	.53	.41	.40	.44	.39	.54	.....	.....	.....	.....	.....
1939.....	.03	.04	.13	.05	.05	.06	.10	.10	.13	.14	.28	.31
1938.....	.14	.23	.05	.06	.11	.06	.03	.03	.15	.06	.02	.02
Lay-offs:²												
1940.....	.35	.47	.28	.25	.53	.47	.21	.....	.....	.....	.....	.....
1939.....	.55	.96	.67	.59	.36	.59	.28	1.36	.55	.32	.38	.40
1938.....	2.57	3.86	4.10	4.13	3.69	2.72	2.37	1.36	1.80	3.43	.68	.89
Total:												
1940.....	1.85	2.08	1.99	1.90	2.36	2.21	2.09	.....	.....	.....	.....	.....
1939.....	1.02	1.52	1.36	1.28	1.16	1.25	.99	1.25	2.06	1.84	1.92	1.62
1938.....	3.12	4.55	4.53	4.82	4.32	3.23	2.88	1.74	2.51	4.01	1.08	1.32
Accessions:³												
Rehirings, 1940.....	.10	.24	.10	.16	.47	.33	.16	.....	.....	.....	.....	.....
New hirings, 1940.....	5.56	4.86	3.87	4.35	3.68	5.05	2.89	.....	.....	.....	.....	.....
Total:												
1940.....	5.66	5.10	3.97	4.51	4.15	5.38	3.05	.....	.....	.....	.....	.....
1939.....	2.41	3.37	3.63	2.65	3.56	4.01	3.81	3.35	5.34	7.92	6.90	5.19
1938.....	.54	.35	.38	.98	.74	.84	1.35	1.88	.99	2.60	1.88	2.27

¹ The various turn-over rates represent the number of quits, discharges, lay-offs, total separations, and accessions per 100 employees.

² Including temporary, indeterminate, and permanent lay-offs.

³ Beginning with January 1940, accessions have been separated into two classifications—rehirings, which include workers hired after a separation of 3 months or less, and new hirings (other employees hired).

Examination of the quit rates fails to disclose any large-scale raiding within the industry. The number of quits averaged 1.25 monthly per hundred employed during the first 7 months of 1940, compared with 0.62 during 1938. The comparatively high quit rate of 1940 is, however, low in comparison with the new-hire rate of 4.32 for the same period. It would appear, therefore, that since considerable plant experience is nearly always a prerequisite to employment in the machine-tool industry, the rise in employment is being achieved through a shift of workers from other industries where such experience could have been obtained.

Discharges and Quits

There is some evidence that not all the workers coming into the machine-tool industry in 1940 were satisfactory. The average monthly discharge rate during 1938 was only 0.08 per hundred employees. During the first 7 months of 1940, the average monthly discharge rate rose to 0.45—almost six times as large. The Bureau's data for all industries show an average monthly discharge rate of 0.11 during 1938 and only 0.14 for the first 7 months of 1940.

It may be observed that the shifting of workers within the industry is greater in areas where the machine-tool industry is more concentrated than elsewhere. In the Cincinnati area, for example, the quit rate—the rate which most nearly measures the voluntary movements of workers—was 7.7 for the first 6 months of 1940, whereas the rest of the country averaged 5.9. A similar picture is shown for the broader and more comprehensive general manufacturing industries of the Hartford County (Conn.) area. In a recent report,² it was shown that in this highly industrialized area, in which an important section of the expanding airplane-engine industry is situated, there were 82 plants employing 39,580 workers in July 1940. Their quit rate for the month was about 1.5, equivalent to a rate of about 9.0 per hundred employees for the first 6 months of 1940.

Turn-Over in Relation to Size of Plant and Type of Product

Certain significant tendencies in turn-over rates appear when the rates in the larger plants are separated from those of the smaller plants. In the larger machine-tool plants, i. e., those in which the average employment for the first 7 months of 1940 was over 500, layoffs per hundred employees were fewer while accessions were generally greater. This condition is probably due to the fact that the larger firms have been receiving a more than proportionate share of the recent increase in machine-tool orders.

Turn-over rates vary also according to the type of product. It is apparent that the builders of metal-cutting machines and their accessories are the chief beneficiaries of the present expansion in the machine-tool industry. Reports from firms engaged in the building of textile, woodworking, and other specialized machinery show higher separation rates and smaller accession rates. It is observable also that these firms rehire proportionately more of their former employees than do the builders of metal-cutting tools and accessories.

² Manufacturers' Association of Hartford County. Statistical Report, August 8, 1940.

Certain firms deviate from the labor turn-over patterns prevailing in plants of their general size or product. Within the same group of machine-tool builders, rehiring rates were found to be comparatively very large or very small. Also, for the 7-month period of 1940, some firms had both a high separation rate and a high accession rate; others, however, presented the more satisfactory combination of a low separation rate and a high accession rate. Two of the largest plants in the industry, situated less than 50 miles apart, manufacture somewhat similar products and both have been enjoying high accession rates. One, however, had a high separation rate and the other a very low one.



Industrial Aspects of Labor Mobility ¹

Both industry and labor benefit from the ability and willingness of workers to move from places in which their services are not needed to places where they are in demand. Were it not for labor mobility, industrial activities would at times be seriously handicapped because of an inadequate number of workers residing in the community of operation. Similarly, employment opportunities would be restricted to what local industries could offer, if workers were confined to a single market for their services.

Labor mobility, however, does not always bring job and job seeker together. Much wasted effort occurs because the unemployed worker does not always know where his services are most likely to be needed; this waste is particularly noticeable when normal industrial operations are disturbed by an economic depression. Another factor that limits the effectiveness of migration in bringing men and jobs together is the marked differences in the needs of individual industries for workers to supplement the resident labor force; these differences are the result not only of changes in general business activity, but also of seasonal and long-time changes in the activity of particular industries.

Information concerning these and other aspects of labor mobility has been limited almost solely to conditions existing in the extractive industries, such as agriculture, and forestry and fishing, where the need for a mobile labor supply is readily observed. This article presents information on the movement of workers in all the major industrial groups in the State of Michigan, with special reference both to variations occurring during the worst part of the depression and to those caused by seasonal fluctuations in business activity.

The place and time at which this information was collected make it especially suitable for an analysis of mobility in relation to industry.² Michigan includes within its borders a wide variety of industrial centers and raw-material-producing areas, ranging from the important manufacturing cities and fertile agricultural sections in the southern part of the State, to the depressed mining, lumbering, and agricultural areas in the northern part of the State. The period studied,

¹ Abstract of article by John N. Webb and Albert Westefeld, Division of Research, Works Progress Administration, in the *Monthly Labor Review* for April 1939.

² A special tabulation of mobility data from the returns of the Michigan Census of Population and Unemployment, which was taken in January 1935, was made as a cooperative undertaking of the Michigan State Emergency Relief Administration and the Division of Social Research of the Works Progress Administration, Washington, D. C.

April 1930 to January 1935, is also a particularly suitable one, in that it included some of the worst years of the depression, when migration was frequently the only alternative to prolonged unemployment.

Usual Industry of Workers

Among the 188,757 workers whose employment histories were examined, the most mobile group consisted of persons usually employed in forestry, fishing, and the extraction of minerals. About one-fifth of these workers made one or more moves during the 57-month period covered by the study. The group in agriculture had the second highest proportion of workers moving. Persons usually engaged in professional and semiprofessional service were more mobile than were persons usually employed in the manufacturing and mechanical industries, including the automobile industry. Workers continuously unemployed during the period studied were least mobile.

In the following table the 188,757 persons covered by the study are classified by their usual industry and by the longest move they made during the period studied. The "moving" column in this table shows, in addition, the proportion of workers in each industrial group that made one or more moves during the period studied. Because the usual industry was the industry in which the person worked longest during the period studied, the table shows the relative mobility of workers attached to various industries.

Usual industry and longest move completed

Usual industry	Number of workers	Percent of workers					Total not moving
		Total	Moving			Longest move inter-state. ¹	
			Total moving	Longest move within the county	Longest move between Michigan counties		
All industries.....	188,757	100.0	12.9	2.7	6.4	3.8	87.1
Agriculture.....	28,260	100.0	16.9	4.1	9.6	3.2	83.1
Other extraction ²	3,377	100.0	20.4	4.8	9.2	6.4	79.6
Manufacturing and mechanical.....	67,185	100.0	11.5	2.7	5.1	3.7	88.5
Automobile factories.....	31,682	100.0	10.5	2.8	4.9	2.8	89.5
Other.....	35,503	100.0	12.4	2.6	5.4	4.4	87.6
Transportation and communication.....	12,046	100.0	14.4	2.6	6.2	5.6	85.6
Trade.....	28,446	100.0	11.0	2.1	5.3	3.6	89.0
Public service.....	3,420	100.0	10.3	2.0	5.2	3.1	89.7
Professional and semiprofessional service.....	11,899	100.0	16.5	1.9	9.1	5.5	83.5
Domestic and personal service.....	17,589	100.0	13.5	2.5	6.2	4.8	86.5
Casual employment and unknown industries.....	886	100.0	9.0	1.6	4.4	3.0	91.0
Unemployment ³	15,649	100.0	9.6	1.6	6.5	1.5	90.4

¹ Includes a few persons who moved from foreign countries (particularly Canada) to Michigan.

² Forestry and fishing, and extraction of minerals.

³ Includes persons who had no private employment during the time they were in the labor market.

Movement of Workers to and From Industries

The distance a worker moves is related to the industry in which he seeks work. Workers entering the manufacturing and mechanical industries made the highest proportion of moves that were confined

within the boundaries of a county; workers entering agriculture made the highest proportion of moves across county lines within the State of Michigan; and workers who entered the transportation and communication industries reported the highest proportion of moves across State lines.

When the 57-month period covered by the Michigan census is divided into two parts, corresponding roughly to the recession and revival phases of the depression, it is found that there were important differences during the two periods in the proportion of moves to and from various industries. During the first part of the period—April 1930 to October 1932—there was a pronounced movement of workers from manufacturing into agriculture, whereas during the second part of the period—November 1932 to January 1935—many workers moved from agriculture into the manufacturing industries. The movement of workers into rural areas during a time when economic conditions were growing increasingly worse was a reflection of the large volume of unemployment, and the insecurity of living, in cities; while the reversal of the “back to the land” movement when economic conditions improved demonstrates the strong attraction and greater opportunities of industrial employment.

The number and direction of moves made by Michigan workers were also influenced by seasonal changes in employment opportunities. Labor needs at planting and at harvest time are clearly evident in the movement of workers into agriculture. Among other industries seasonal variations in movement were related to seasonal changes in industrial activity, although the relationship was less marked than in the case of agriculture.

Legal Aid and Small-Claims Courts

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Legal-Aid Work in the United States ¹

The social and economic forces that have so radically altered the conditions of life in America and that have caused a break-down of serious proportions in our administration of justice, first made themselves felt in the last quarter of the nineteenth century. A generation passed before the American people were made aware of what had happened in their most vital domestic institution. During that time the wage earners and the humbler classes generally had to exist without ample protection from the law. If their wages were unpaid, their only redress lay in civil litigation, which was protracted and expensive beyond their means. If they were injured, their only recourse was a suit for personal injuries, their path was strewn with technical traps such as the "fellow-servant" rule and the doctrine of "assumption of risk," a lawyer had to be secured on a contingent-fee basis, and the best that could be expected would be a verdict after the lapse of 2 or 3 years. Because of their legally defenseless position they were preyed upon and defrauded by a host of petty swindlers. The exploitation that immigrants endured has been written into the records of Federal and State investigations. The law in its actual application to his life was apt to impress the wage earner as an enemy and oppressor and not as a friend and protector.

Development of Legal-Aid Organizations

In various States experiments designed to improve the position of the poor before the law have been made, and most of these have met with substantial success. While each remedial agency was constructed to meet some particular aspect of the general problem with which this study deals, all these agencies, if combined and made a part of the administration of justice throughout this country, would provide definite and tried methods whereby the laws could be made actively effective in a large majority of the cases in which wage earners and all persons of limited means are interested. For the general run of claims under \$50, the small-claims courts afford a speedy and inexpensive procedure; the conciliation tribunals are still in the experimental stage, but they may become the ideal counterparts of the small-claims courts in the more sparsely populated districts. In the field of work accidents the industrial accident commissions, with their auxiliary medical and inspection staffs, unquestionably serve to bring justice to the injured workman and his dependents in at least 9 cases out of 10, through a method of administrative justice which is prompt and free from expense. Various administrative officials, operating as a part of the executive arm of the government, give legal advice and assistance in matters of insurance, purchases of securities, small loans, and, most important, in the collection of wages. In criminal matters, where the problem is to supply the

¹ From U. S. Bureau of Labor Statistics Bull. No. 607: Growth of Legal-Aid Work in the United States, by Reginald Heber Smith and John S. Bradway. Washington, 1936.

services of attorneys to poor persons accused of crime, the public-defender and the paid-assigned-counsel plans constitute a practical answer.

While stressing the efficacy of these remedial agencies it is necessary to sound a note of caution. There are disputed industrial-accident cases where the employee needs representation by counsel, and there are wage claims which a labor commissioner for one reason or another cannot collect, so that the wage earner must seek the assistance of a lawyer. As to the vast number of miscellaneous types of claims and cases within the field of the civil law—all cases of debts, contracts, many claims beyond the jurisdiction of the small-claims courts, all accidents not within the scope of the compensation acts, all domestic-relations difficulties such as divorce, judicial separation, custody and guardianship of minors, and disputes concerning the ownership of personal property—the only remedy that is available is through litigation in the courts, and for that litigation the services of an attorney are indispensable. Add to this the need of the services of an attorney in drawing contracts and other documents and in advising clients as to their legal rights and what course of action they should pursue, and it is apparent that to complete our plan for equalizing the practical administration of the laws under modern conditions there must be provided some definite arrangement whereby the services of attorneys may be available to wage earners and others who, by reason of inadequate financial resources, are unable to secure the services of counsel at their own expense.

Our experience in America indicates quite conclusively that the final agency needed to round out and supplement the services of all the others is to be found in what is called the legal-aid organization. In the effort to piece together a structure or program whereby the administration of justice may be brought abreast of the needs and demands of the existing industrial urban society, it is clear that the heaviest load, the most extended responsibility, and in a sense the final responsibility, must be borne by these legal-aid organizations.

The conditions that operated to bring about the establishment of the first legal-aid society were precisely the same as those which caused maladjustments in the administration of justice itself. In short, they were not legal causes per se but the rapid social and economic changes that transfigured the whole tenor and complexion of American life. In 1875 New York became a city of a million inhabitants, and it is not a mere coincidence that the first legal-aid organization came into being in that city in 1876.

In that year a group of lawyers and laymen who were especially interested in German immigrants, realizing the frauds and impositions of which immigrants were the victims and which could be redressed only through legal action, appointed a special committee to study the situation, and from the committee arose the suggestion for the establishment of a regular association to handle the problems. Offices were secured and a salaried attorney installed, who devoted a portion of his time to the work.

The idea of legal-aid work germinated very slowly during the first 25 years. The community was not aware of the difficulties of the poor man who needed legal protection. The situation was most manifest in the largest cities and the legal-aid idea naturally first took root in our two largest cities—New York and Chicago. From 1900

to 1917 the idea spread at an accelerating pace, first into the next largest cities, such as Philadelphia, Boston, and Cleveland, and finally reaching across the continent to Los Angeles and San Francisco. During the war the movement was checked and suffered a momentary set-back, but by 1920 it was well under way again.

Work of Legal-Aid Organizations

While legal-aid work has an unbroken history running back for over 50 years, the great bulk of its achievement, as indicated in the accompanying table, lies within the last two decades, during which the movement became truly national in scope. In other words, the legal-aid organizations taken as a whole have passed through their experimental stage, but they are still in process of development. They contain tremendous latent possibilities for effective service in connection with the administration of justice, but they are only at the threshold of the passageway which leads to full realization of these opportunities. Later statistics on the operation of legal-aid societies are given in the next article.

*Growth of legal-aid work in the United States, by years*¹

Year	Number of organizations	Number of cases	Amounts collected for clients	Operating expense	Year	Number of organizations	Number of cases	Amounts collected for clients	Operating expense
Total, 1876-1933		3,912,146	\$13,604,855	\$7,860,746	1903	10	28,358	\$68,731	\$33,333
1876	1	212	1,000	1,060	1904	13	34,156	71,005	38,829
1877	1	750	5,019	1,519	1905	12	33,352	80,020	42,734
1878	1	856	8,089	1,570	1906	12	37,603	99,049	53,347
1879	1	1,903	7,514	1,816	1907	13	42,596	126,515	62,620
1880	1	2,122	8,680	2,248	1908	13	50,944	129,562	66,534
1881	1	2,832	9,149	2,622	1909	14	48,212	136,105	72,170
1882	1	3,413	12,460	2,715	1910	15	52,644	166,851	76,602
1883	1	3,400	17,040	2,838	1911	16	60,950	185,567	97,250
1884	1	3,640	19,062	2,817	1912	21	77,778	217,532	119,705
1885	1	3,802	17,711	2,870	1913	28	87,141	244,162	133,609
1886	2	3,462	19,357	3,820	1914	32	109,048	268,849	160,189
1887	2	3,870	17,755	5,005	1915	38	111,719	323,092	166,701
1888	3	5,624	20,852	8,739	1916	41	117,201	340,199	181,408
1889	3	7,611	32,768	10,425	1917	41	108,594	266,373	153,559
1890	3	9,316	47,580	11,953	1918	41	99,192	289,859	167,307
1891	3	10,282	65,818	12,781	1919	41	102,289	367,813	195,595
1892	3	10,656	86,206	15,122	1920	41	96,034	389,835	226,079
1893	3	11,166	37,603	11,365	1921	41	111,404	456,160	282,359
1894	4	15,427	68,672	14,597	1922	47	130,585	499,684	328,651
1895	4	16,128	66,341	14,312	1923	61	150,234	498,846	351,326
1896	4	15,017	76,695	13,450	1924	72	121,177	662,675	348,290
1897	4	12,115	78,420	14,734	1925	72	143,653	675,994	408,576
1898	4	12,309	72,860	13,654	1926	73	152,214	645,991	369,264
1899	4	16,189	72,575	16,030	1927	78	142,535	719,643	387,331
1900	5	20,896	101,970	21,669	1928	85	165,817	645,435	461,557
1901	6	23,366	83,739	28,885	1929	84	171,961	802,328	464,420
1902	10	23,544	78,507	29,086	1930	86	217,643	876,477	546,803
					1931	85	227,471	674,122	538,199
					1932	85	307,673	815,440	596,941
					1933	84	331,970	727,499	481,756

¹ Figures are for organizations reporting.

As shown in the table, up to the end of 1933, the legal-aid organizations had received applications for assistance in 3,912,146 cases; through their efforts they had collected for their clients \$13,604,855; and in the prosecution of their work they had expended \$7,860,746. In 1933 the existing organizations served a territory in which 39,000,000 persons lived, they assisted more than 300,000 clients; for them they collected nearly three-quarters of a million dollars in amounts that averaged little more than \$15 per case. The maintenance of

legal-aid work in 1933 cost half a million dollars, which means that they were able to interview and to extend legal advice to a client, and to render whatever legal assistance he required, at an average cost of about \$1.45 per case.

The constitutions of a number of societies state the object of their work to be "to render aid and assistance, gratuitously if necessary." When the client is unable to pay anything the service must be extended to him free of all charges; every legal-aid organization subscribes to this principle, and no applicant is ever rejected on the ground that he cannot pay a fee.

On the other hand, if the applicant can pay a nominal fee, some of the organizations do make a charge. One definite school of thought among legal-aid workers strongly objects to any system of fees whatsoever. Their argument is that justice should be free; that legal-aid service should be extended without any pecuniary reward; that the nature of legal-aid work will be more clearly appreciated by the community and its dignity be enhanced if no charges for services rendered are imposed.

The countervailing argument is perhaps less idealistic but is supported by strong practical considerations. It is urged with vigor that the system of charging fees, however small, tends to eliminate fictitious and groundless complaints; that when a client has paid a fee he has a stake in the matter and is less likely to drop it; that by the payment the relationship is lifted from the plane of charity to one of self-respect; and that these fees, although trifling in themselves, in the aggregate constitute a source of income that enables the organizations to do more work than their limited finances would otherwise enable them to perform.

Of the various societies and bureaus as to which definite information is available, 15 charge registration fees and 36 do not; 17 charge a commission for collections or other valuable services and 34 do not. All of the public bureaus are free. Nearly all of the offices which are conducted as departments of organized charity societies (as the united, federated, or associated charities) charge no fees. On the other hand, most of the privately incorporated societies (and these include the organizations that do about half of all the legal-aid work in the United States) do charge.



Statistics of Legal-Aid Work, 1939 ¹

Legal-aid work in the United States in 1939 included the handling of 273,971 new and reopened cases and the collection of \$687,033 for clients. The gross operating costs reported were \$630,625 and the fees and commissions received amounted to \$39,193.² These figures are from reports of committees of the National Association of Legal Aid Organizations submitted for discussion at its 1940 conference,³ and

¹ From Monthly Labor Review for May 1941.

² The work of the legal-aid committees of various bar associations and of legal-aid clinics in law schools is not covered in these statistics.

³ National Association of Legal Aid Organizations. Reports of Committees 1939-40, for Discussion at the Conference in Jacksonville, Fla., October 31-November 1, 1940. (Durham, N. C., 1940.)

are probably not quite so comprehensive as those given in the previous article, which presents the findings of a special study.

TABLE 1.—*Statistics of legal-aid work in the United States, 1939*

MEMBERS OF NATIONAL ASSOCIATION

City	Year association established	Population served	New cases handled	Collected for clients	Gross cost of operation	Fees and commissions
All cities			• 188, 589	\$667, 465	\$491, 569	1 \$37, 811
Albany, N. Y.	1923	130, 000	988	3, 993	3, 633	349
Baltimore, Md.	1929	800, 000	4, 735	11, 385	17, 468	508
Boston, Mass.	1900	2, 000, 000	10, 283	69, 263	30, 332	11, 799
Bridgeport, Conn.	1918	146, 716	1, 300	2, 300	3, 050	
Buffalo, N. Y.	1912	2 762, 408	6, 178	3 147, 994	29, 710	942
Cambridge, Mass.	1914	200, 000	4 875	(5)	2, 354	133
Chicago, Ill. ⁶	1886	4, 900, 000	16, 018	76, 227	49, 506	1, 467
Chicago, Ill. ⁷	1895	300, 000	928	3, 832	(9)	
Cincinnati, Ohio	1908	485, 500	7, 580	6, 799	9, 241	1, 223
Cleveland, Ohio	1905	1, 250, 000	7, 461	7, 882	(9)	952
Columbus, Ohio	1935	300, 000	511	(5)		
Dallas, Tex.	1915	380, 927	1, 545	2, 215	1, 889	
Denver, Colo.	1925	300, 000	2, 418	(5)	5, 781	86
Des Moines, Iowa	1935	175, 000	258	200	575	
Detroit, Mich.	1909	2, 000, 000	22, 159	63, 877	35, 036	1, 384
Durham, N. C.	1931	65, 000	404	(5)		
Grand Rapids, Mich.	1921	176, 000	1, 239	2, 634	4, 929	117
Hartford, Conn.	1927	177, 348	1, 427	(5)	1, 350	(5)
Indianapolis, Ind.	1939	364, 161	31	(5)	(9)	(5)
Jacksonville, Fla.	1931	185, 000	708	1, 923	3, 111	59
Los Angeles, Calif.	1929	2, 000, 000	3, 833	(5)	8, 891	(5)
Louisville, Ky.	1922	350, 000	10, 123	8 20, 149	9, 366	38
Madison, Wis.	1931	9 112, 737	283	(5)	356	
Milwaukee, Wis.	1916	578, 249	10 2, 501	4, 792	5, 500	
Minneapolis, Minn.	1912	485, 000	• 2, 346	2, 235	8, 652	83
Montreal, Que.	1922	200, 000	302	25, 386	(5)	(5)
New Bedford, Mass.	1923	(5)	(5)	(5)	(5)	(5)
New Haven, Conn.	1927	176, 500	3, 282	3, 219	2, 450	
New Orleans, La.	1932	523, 000	473	917	1, 004	
New York, N. Y. ¹¹	1876	12 692, 971	33, 895	72, 211	123, 008	14, 291
New York, N. Y. ¹³	1919	4, 000, 000	4, 068	(5)	22, 491	
Oakland, Calif.	1929	446, 000	3, 030	(5)	4, 489	
Philadelphia, Pa.	1901	2, 000, 000	10, 017	80, 777	28, 283	3, 173
Pittsburgh, Pa.	1908	1, 500, 000	• 5, 456	10, 712	15, 851	
Portland, Oreg.	1935	310, 000	2, 314	2, 659	(5)	
Providence, R. I.	1921	287, 539	1, 062	1, 234	7, 873	260
Rochester, N. Y.	1910	350, 000	3, 237	18, 598	13, 689	393
Salt Lake City, Utah	1921	150, 000	314	397	1, 380	
San Francisco, Calif.	1916	700, 000	• 6, 617	11, 187	12, 433	
Springfield, Mass.	1925	175, 000	3, 116	(5)	6, 569	555
St. Louis, Mo.	1912	900, 000	1, 490	5, 519	7, 491	(5)
St. Paul, Minn.	1913	288, 737	1, 264	(5)	8, 324	(5)
Tampa, Fla.	1938	101, 161	31			
Washington, D. C.	1932	600, 000	2, 489	6, 951	5, 503	

NONMEMBERS

All cities			22, 876	\$17, 549	\$23, 864	\$1, 382
Atlanta, Ga.	1924	295, 500	3, 056	7, 938	7, 225	(5)
Dayton, Ohio	1913	234, 000	4, 475	1, 040	3, 172	(5)
Erie, Pa.	1935	135, 000	269	3, 300	1, 200	(5)
Kansas City, Mo.	1910	15, 000	8, 849	14 3, 000	4, 500	(5)
Little Rock, Ark.	1938	135, 000	99	(5)	821	
Newark, N. J.	1920	600, 000	4, 473	5, 272	4, 117	6

See footnotes at end of table.

TABLE 1.—Statistics of legal-aid work in the United States, 1939—Continued

NONMEMBERS—Continued

City	Year association established	Population served	New cases handled	Collected for clients	Gross cost of operation	Fees and commissions
Reading, Pa.	1925	250,000	301	(⁹)	639	(⁹)
Seattle, Wash.	1939	406,000	1,107	-----	2,190	(⁹)
Toledo, Ohio.	1924	300,000	200	-----	-----	(⁹)
Greensboro, N. C.	1939	126,000	17	-----	-----	(⁹)
Greenville, S. C.	1939	63,774	30	-----	(⁹)	(⁹)

^a Includes some reopened or recurrent cases.

¹ Where no amount is reported and no note reference is given, no fees or commissions were paid.

² Erie County.

³ \$6,583 represents actual collections; \$141,411 "workmen's compensation awards" obtained, which are payable over a period of time.

⁴ Apr. 1, 1939, to Apr. 1, 1940.

⁵ No data.

⁶ Legal Aid Bureau.

⁷ Jewish Social Service Bureau.

⁸ Including release from garnishments.

⁹ Dane County.

¹⁰ Oct. 1, 1938, to Sept. 30, 1939.

¹¹ Legal Aid Society.

¹² Manhattan, Bronx, and Kings.

¹³ National Deserption Bureau.

¹⁴ Not direct through office.

The work of the public or voluntary defenders is recorded in table 2. Concerning fees and commissions paid in connection with these activities, New York, Omaha, and the city of Los Angeles were reported as giving no data, and Los Angeles County was reported as stating that records were not available. For the other 12 jurisdictions, it was reported that no fees nor commissions were paid.

TABLE 2.—Work of public or voluntary defenders, 1939

City	Year association established	Population	New cases handled	Gross cost of operation
All cities.	-----	-----	62,506	\$115,192
Boston, Mass.	1935	1,500,000	480	5,502
Fairfield County, Conn.	1917	386,702	1125	990
Cincinnati, Ohio.	1928	485,500	1,153	1,500
Chicago, Ill.	1930	3,800,000	1,058	² 28,720
Columbus, Ohio.	1914	300,000	5,192	4,380
Hartford County, Conn.	1917	500,000	1167	(³)
Los Angeles:				
City.	1915	1,238,048	43,258	(³)
County.	(³)	(³)	(³)	(³)
New York, N. Y. ⁴	1917	1,500,000	4,367	(³)
Oakland, Calif.	1927	531,000	1619	13,500
Omaha, Nebr.	1913	⁵ 250,000	(³)	6,700
Philadelphia, Pa.	1934	2,000,000	2,000	20,000
Pittsburgh, Pa.	1930	1,500,000	⁶ 1,574	6,000
San Diego, Calif., Public Attorney.	1919	300,000	1,500	⁷ 2,600
San Francisco, Calif.	1921	730,000	1,263	19,000
St. Louis, Mo.	1938	850,000	250	6,300

¹ Criminal only.

² Yearly budget.

³ No data.

⁴ Criminal Courts Branch—formerly the Voluntary Defenders' Committee.

⁵ Douglas County.

⁶ Includes some reopened cases.

⁷ Budget of \$2,600 does not include rent of quarters valued at \$400 per year.

Work of District of Columbia Small-Claims Court ¹

In 1913 the first small-claims courts were established, one in the city of Cleveland and one in the State of Kansas. Two years later the State of Oregon followed with the establishment of a small-claims branch in the District Court in Portland, and soon thereafter extended the system on a State-wide basis. Within 5 years a similar court was established in Chicago, and in 1920 the Municipal Court of Philadelphia established a conciliation, small-claims, and legal-aid division.

In the following year, 1921, California, South Dakota, and Massachusetts established similar systems. Within a few years such courts were created in Minnesota, Iowa, Idaho, Nevada, Vermont, New Jersey, Connecticut, Rhode Island, Colorado, and Utah. In 1934 in New York, the State Commission on the Administration of Justice strongly recommended the establishment of small-claims branches within the municipal courts. Acting on a special message of the Governor, such legislation was enacted.

The fundamental features are similar, if not identical, in the various courts. The jurisdiction has usually been limited to claims not exceeding \$50; registered mail, or sometimes even ordinary mail, has been employed for the service of process; the statement of claim has been standardized and made uniform; technical pleadings have been abolished; a quick return day has been established, with provisions assuring a trial on that day; provision has been made for the installment payment of judgments, and special safeguards have been provided for those pertaining to wage claims.

Characteristics of Small-Claims Court for District of Columbia

After a long controversy and strenuous opposition, the Congress of the United States in 1938 enacted a measure for the District of Columbia, which was promptly approved by President Roosevelt, establishing the small claims and conciliation branch in the municipal court. In reporting favorably on the legislation, the District of Columbia Committee of the Senate stated:

The purpose of the bill is to improve the administration of justice in small civil cases and make the service of the municipal court more easily available to all of the people whether of large or small means; to simplify practice and procedure in the commencement, handling, and trial of such cases; to eliminate delay and reduce costs; to provide for installment payment of judgments; and generally to promote the confidence of the public in the courts through the provision of a friendly forum for disputes, small in amount but important to the parties. It was emphasized before the Committee that such cases frequently become tragic in their implications if not carefully and speedily determined.

The following innovations and reforms were provided by this act:
Jurisdiction.—The jurisdiction of the new branch is exclusive in cases involving \$50 or less. This prevents either plaintiff or defendant from “jockeying” a case into another court to accomplish delay or for any other improper purpose. It also prevents plaintiffs who file large numbers of suits from obtaining unfair advantages over

¹ Abstract of an article by Edward M. Carr, clerk, Small Claims and Conciliation Branch, Municipal Court of District of Columbia, in the Monthly Labor Review for August 1939.

defendants. One year before the new branch was opened, in cases of this class, only 212 trials were obtained before the entire municipal court. Nine times that many defendants, a total of 1,810, were able to obtain the privilege of a full hearing by the judge of the new branch during its first year of operation.

Preparation of plaintiff's claim by clerk.—The plaintiff simply walks into the clerk's office and describes his complaint; the papers are then prepared for his signature, and immediately sent out for service by the marshal or by registered mail. The need for the service is amply attested by the fact that in 1 of every 10 cases filed, that is to say in 2,350 cases, the clerk of the branch prepared and filed the original suit papers. It would be difficult to imagine a more practical and effective means of helping litigants in the lower income groups. This service is reserved by law for individuals and is not permitted to be rendered by the clerk to partnerships, corporations, or associations.

Substantial reduction of costs.—The new lower fee of \$1 covers the cost of filing the case, receiving a trial, and having a judgment entered. Plaintiffs without funds need no longer show that they are actually destitute or "paupers" in order to obtain the services of the court without charge. This removes the stigma of poverty from a plaintiff who may not be able to pay the usual filing fee. By employing registered mail, the cost of service becomes only 20 cents, instead of the 50 cents formerly payable to the United States Marshal for his service.

Short notice period.—As compared with the old 20-day period of notice, cases are now made returnable in as little as 5 days, and no case is set for longer than 15 days. The average is about 10 days from the date of filing, but in wage claims the minimum return period of 5 days is almost always used.

Service by registered mail.—The adoption of service by registered mail has been very successful. This method of service has been employed in almost 19,000 cases, and has in 4,135 cases proved to be 76 percent effective, as against the 52 percent reported under the former service by the marshal. In addition, Congress has authorized service by individuals especially appointed by the Court.

Statement of claim.—The statement of claim has been made uniform, as the law itself prescribed the language of the statement; there is no leeway for "fancy pleading." The statement contains a brief reference to the nature of the plaintiff's claim, the date it arose, and the amount claimed. The defendant is told that he may come to court with or without an attorney and present his defense. He is also told that if he admits the claim but wishes the privilege of paying it off in installments, he may come to court and state the circumstances to the judge. In other words, a defendant, presented with a claim of this kind, does not require the services of a lawyer to interpret the matter for him.

Elimination of delays.—Provision of trial in contested cases on the first return day has been accomplished by the simple expedient of refusing continuances except when both parties desire it for the purpose of settlement or when actual illness prevents attendance in court.

The law requires that the judge "make an earnest effort to settle the controversy by conciliation." This was a very wise provision. It has created an atmosphere of friendliness resulting in many successful settlements. In 1 year 261 cases have been conciliated and settled

by the judge without a trial, and more than 1,400 cases have been settled and dismissed by the parties themselves before reaching the courtroom. The courtroom is no longer an arena for the display of the talents of counsel.

Judgments payable in installments.—Thousands of people would feel ruined if compelled to pay their obligations in one lump sum. With that in mind, Congress provided that defendants against whom a judgment is entered, whether uncontested or after a trial, shall have an opportunity to pay off the claim at regular intervals (except in case of wage claims) and in amounts based on their ability to pay. Perhaps nowhere in the law are the social considerations so carefully applied as in this feature. Its success is indicated by the fact that 2,189 defendants in 1 year sought and obtained this privilege, and all but 18 percent of them were able to comply with the court order.

Oral examination of defendants in wage claims.—In its desire to protect the wage earner, Congress provided that one suing for wages should have various safeguards. A wage earner filing a claim for unpaid salary can have a case set down for hearing in 5 days, obtain the benefit of reduced costs, and can easily have a case filed without prepayment of costs. The notice goes out by registered mail and is delivered promptly. The employer must be prepared to meet the claim on the return day. If the judgment goes against him, he must pay it at once; in this class of cases installment payments are prohibited by law. If the claim is not paid promptly, the employer may be brought into court at regular intervals for oral examination under oath as to his financial status, his bank account, automobile, stocks, bonds, and other assets, and interrogated fully as to why he has not paid the judgment. On the average, in only 10 cases per month has it been necessary, upon employers' defaults, to bring them in for such oral examination.

Night sessions.—Night sessions are provided for litigants who cannot attend court in the daytime. The law makes mandatory at least one night session a week. Hundreds of cases have been heard at these night sessions for the convenience of litigants whose absence from their jobs for even part of a day was expensive and might have caused the loss of employment.

Right to jury trials.—The right to jury trials has been preserved but has proved of little interest to the litigants, as their greatest desire seems to be for a quick determination of their cases. In fact, only 3 jury trials resulted in an entire year.

Right to appeal.—The right to appeal has been preserved also. This feature, likewise, has been of no particular significance, for there were only 11 applications for writ of error during the first year. The appellate court granted but 1 and that 1 was soon thereafter dismissed.

Discouragement of Wage Assignments

A frequent source of irritation to householders and small merchants has been the effort of a few credit houses to obtain and enforce wage assignments. The practice usually has been to exact, from a customer about to purchase merchandise on credit, not only a conditional sale agreement but also an assignment of his wages in advance. No credit house has ever attempted to file a suit on such an assignment in the small-claims court. This is probably because of a ruling by one of the municipal court judges (in a case involving a larger amount) in

which the judge condemned the practice as "salary-buying" and bluntly stated that employers presented with such assignments would be justified in "tossing them into the nearest wastebasket."

Arbitration of Labor Disputes

The act establishing the District small-claims court also empowered the judge to act, when invited, as a conciliator or arbitrator in labor disputes.

Record for 1939 ²

The second annual report of the District of Columbia Small-Claims Court, covering the period from January 1, 1939, to December 30, 1939, indicates that an increasing number of persons are utilizing the services of this court. More than 22,000 cases were filed during the year and these constituted 67 percent of all debt actions filed in the municipal court (in which the maximum jurisdiction is \$1,000). Over 1,900 contested trials were held, or more than 8 times the number of trials accorded to litigants in this same class of cases in the year prior to the establishment of the small-claims court in 1938. The total amount of claims filed exceeded \$500,000, with the average claim involving about \$24. Fees totaling nearly \$30,000 were paid into the clerk's office, indicating that the small-claims court is self-supporting.

The experience under the District of Columbia small-claims law shows that the adoption of service by registered mail has been very successful, as it was used by more than three-fourths of the claimants. In a recent decision ³ the validity of service by registered mail was upheld by the United States Court of Appeals for the District of Columbia. Judge Nathan Cayton, who is credited with being the author of the District of Columbia Small-Claims Court Act, declared, when informed of this decision, that the ruling will save litigants about \$6,000 a year in costs, which would be the difference between the cost of postage and the marshal's fees.

It is interesting to note that there were only 8 demands for jury trial, of which number only 5 actually came to trial. While the right to appeal is preserved, there were only 14 applications for reviews during the year. Four of these were granted by the court of appeals, and the other 10 denied.

There were only 2,241 continuances, and almost all of these were for the purpose of settlement of cases. Practically all trials were disposed of on the first return day. Thus, it may be said that after 2 years' experience in the operation of the District of Columbia Small-Claims Court, the person with a small claim receives a prompt decision of his case and obtains "a judgment in time to enjoy it."

At the beginning of 1940, 18 States ⁴ had provided small claims courts. In Michigan, while there are no small-claims courts operating, the State has created a special procedure for staying execution pending installment payment of judgments. Recently a peoples' court has been established in Baltimore, Md., and the State legislature may create similar courts in other cities or counties.

² From Monthly Labor Review for December 1940.

³ *Wise v. Herzog*, 114 Fed. (2d) 486.

⁴ California, Colorado, Connecticut, Idaho, Iowa, Kansas, Massachusetts, Minnesota, Nevada, New Jersey, New York, North Dakota, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Washington.

Migratory Labor

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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The Migratory Labor Problem

Large-scale movements of persons seeking work have assumed increasing importance in the past few years, although labor migration is not a new phenomenon in this country. Labor mobility has been an inherent factor in the American economic system, being a part of traditional American freedom, but the causes of the present migration lie in deep-seated maladjustments and have resulted in widespread destitution and distress.

The principal causes of the extended migratory movement of the past decade have been the unemployment caused by the prolonged depression and severe droughts occurring in many agricultural areas. The concern aroused by the mass movement of millions of American citizens in search of work was reflected in the appointment of a select committee of the House of Representatives in July 1940 to investigate the causes underlying the movement. An earlier investigation of the social and economic needs of laborers migrating across State lines was provided for in a Senate resolution adopted in 1936 which directed the Secretary of Labor to make such an investigation.

In addition to the investigations authorized by the Congress, various interstate conferences have been held in the effort to devise measures to meet the problems presented by the migratory movement. The defense program has accelerated the movement of persons in search of work and efforts are being made to prevent harmful and useless migration to centers where production is being greatly increased.



Interstate Migration of Destitute Citizens ¹

The causes underlying the mass migration of millions of United States citizens, and the social and economic needs arising from this movement, were the subject of an investigation by a select committee of the House of Representatives, which began in July 1940. A preliminary report issued by the committee dealt with the scope of the migration problem and the causes of migration, and summarized the recommendations made by witnesses before the committee.²

Problems of Migration

Although migration had always been a conspicuous factor of American life, it is only since the depression starting in 1929 that the movement of large numbers of persons in search of work has become a problem of major importance. It is quite generally assumed that the immediate origins of these people are agricultural; but, as a matter of fact, all studies indicate that the greater number of

¹ From the Monthly Labor Review for February 1941.

² United States Congress. House of Representatives. Select Committee to Investigate the Interstate Migration of Destitute Citizens (76th Cong., 3d sess.). Preliminary Report. Washington, 1941.

migrants originate in urban communities. These migrants are not necessarily destitute, but in order to understand the ways in which moving people become destitute, it was necessary to study the migratory movements of people in general. The study, therefore, covered both the migrants who move in search of permanent situations and those who follow seasonal occupations.

During the past decade, the troubles of the moving population have been so severe as to overtax both public and private agencies, many of which had to face this problem for the first time and were not equipped to meet the demands made upon them. There was widespread public resistance in areas where Federal assistance to transients was thought to exceed the relief available for local residents. It was also charged that migration was being encouraged and a new class of transients being created. However, this popular impression was disproved by the testimony of administrators from all fields of relief and public assistance, who were generally agreed that the great majority of the migrants were genuinely in search of new opportunities and were ready and willing to work.

There are at least 40 Government agencies, it was stated in the report, which in some way are involved in the problems of migration. These agencies include, among many others, the Farm Security Administration and other bureaus of the Department of Agriculture, the Department of Labor, the Federal Security Agency, the Public Health Service, the Office of Education, the National Youth Administration, and the Civilian Conservation Corps.

The primary purpose of the Farm Security Administration was to assist the poor-farmer group, especially the tenant, and its program for the relief of the agricultural laborer or the person seeking a new settlement was an incidental development. Its program of rural-rehabilitation loans has enabled many thousands of families to become reestablished in new locations and also has been a means of holding on the land families which would otherwise have been forced to migrate.

The growing industrialization of agricultural production has eliminated nearly half the Nation's farm operators from effective participation in the commercial markets. This lower one-half of the farm operators of the country is the source of the growing body of landless agricultural laborers.

Under the national defense program, agencies not ordinarily concerned with the question find that the problems of migration impinge upon their work. "For example, the national defense involves the War and Navy Departments in large-scale migrations to defense plants, navy yards, arsenals, and cantonments. The problem of males, ages 21 to 35, who are without even temporary residence, is important to the Selective Service Administration. Within the National Defense Advisory Commission, the Labor Division and the Agricultural Division are especially concerned with labor mobility."

Scope of the Problem

Among the various experts testifying before the committee there was general agreement that the problem is national in scope, and of such magnitude that the States are not capable, within their limited

resources and in view of their necessarily limited contact with and grasp of the problem, either of meeting the immediate situation or of planning future remedies.

Although the increase in the volume of migration in recent years has been at a rate far beyond a normal and desirable level, precise measurement of the size of the migrant population has not been undertaken. Such information is lacking not only because there is no adequate machinery for securing it, but also because of the confusion which exists as to the term "migrant" itself. For example, if only persons crossing State lines were regarded as migrants, many would be eliminated who legitimately might be classified as such.

Figures published by the Social Security Board in connection with the old-age and survivors' insurance system showed that in 1937, 2,300,000 persons, or 7 percent of the total number of all claimants covered, moved across State lines (agricultural workers and certain other groups, it should be remembered, are not covered by the system). Of this number a large proportion were near the line of destitution, more than half of them receiving less than \$700 in taxable wages.

Migratory workers may be divided into two classes—(1) seasonal and casual workers who move continually from job to job may be termed constant migrants; (2) removal migrants are those who move to relocate their families. The latter group outnumbers by far the group of constant migrants, but because of the more dramatic character of this type of migration, studies of migrants tend to over-emphasize it.

Prior to 1930, the expectation that migration would result in a relatively quick and satisfactory relocation was usually borne out in practice. Since that time, however, the effects of the depression, increasing mechanization, and natural disasters such as drought and soil erosion, have reduced the chances of migrants to find employment stability and permanence of residence.

Unquestionably the migration of agricultural laborers, whether self-induced or resulting from factors beyond the control of the individual, has been an outgrowth of insufficient incomes. "Thrown into an overstocked and disorganized labor market, the migrant's chances of obtaining steady seasonal or casual work, undesirable as this may be from many points of view, are exceedingly low."

Many of the experts testifying before the committee stressed the inadequacy of existing facilities for the efficient placement of migratory workers in available jobs. General conditions which make for intermittent employment, oversupply of labor, and increasing migration affect urban or industrial workers to as great an extent as agricultural workers.

In addition to inadequate incomes and other hardships which the migratory workers suffer, they find difficulty in having their relief needs met because of legal barriers to the granting of public relief; agricultural workers are outside the scope of the social-security legislation and also are not protected by the National Labor Relations Act and the Fair Labor Standards Act. Migrants also suffer from a lack of adequate hospital and medical care, poor housing, and inadequate educational opportunities for their children.

Causes of Migration

The causes of migration have been found by the committee to be primarily economic:

1. Economic causes, especially those arising from depression areas:
 - (a) General unemployment, causing migration to other urban areas in search of jobs or to the land for security;
 - (b) Regional differences in employment, wage levels, and patterns of seasonal labor requirements;
 - (c) High rates of natural population increase in areas of low economic opportunity;
 - (d) Seasonal demands of agriculture for workers;
 - (e) Mechanization of industry and agriculture;
 - (f) Belated flight from stranded areas as national recovery develops.
2. Natural causes in areas subject to drought hazards, soil erosion, plant disease, and insects.

The final result of mechanization of industry, which at first led to expanding employment opportunities in manufacturing establishments, has been a reduction in such opportunities, and in the past decade the same condition has overtaken agricultural labor.

As a result of this mechanization and the national population increase, it may be expected that for several decades to come the number of job seekers, in agriculture as well as in urban industry, will rise. This situation produces areas of surplus population and declining job opportunities, and stimulates migration in search of new jobs. For many migrants whose job qualifications are limited, these new jobs are nonexistent.

Summary of Recommendations of Witnesses

The committee was not ready to make recommendations at the time of issuance of the preliminary report, but it was believed that a useful purpose might be served by presenting the views of experts and administrators regarding the solution of various phases of the problem.

In regard to labor contracting and transportation, it was felt that high fees and low wages, upon which the labor contractor's operations are based, permitted great abuse of the migrant. In this connection the work of private employment agencies and the advertising used to secure workers were regarded as causes of "waste" migration. By some of the witnesses it was considered that regulation of advertising and stringent policing of labor contracting were desirable, and many of the witnesses advocated extension of the present system of Federal-State employment service.

The migratory-camp program of the Farm Security Administration was commended, and its extension was advocated.

A majority of the witnesses favored increased Federal funds for educational purposes and for the improvement of rural health and housing, and increased emphasis on vocational training.

Inclusion of agricultural workers in the social-security system was advocated by many witnesses, while several called for inclusion under the Fair Labor Standards Act of workers engaged in industrialized agriculture and in agricultural processing.

Extension of the rehabilitation program of the Farm Security Administration, in the opinion of many of the witnesses, would be "an important aid in checking much aimless wandering and possible starvation," although some witnesses regarded these efforts as primarily stop-gap measures.

Regarding settlement laws and Federal aid for general relief, there was no uniformity of opinion among the experts appearing before the committee. In some cases it was recommended that there should be an attempt to obtain uniform settlement laws in the various States, while others felt that the abolition of these laws would be desirable. There was general agreement that adequate care for migrants could not be achieved without a general strengthening of the entire relief program.



Report to Congress on Labor Migration ¹

A report on labor migration between States was prepared by the Department of Labor in 1937, in response to a Senate resolution. The lack of any special appropriation for investigating this complex subject prevented the collection of sufficient data to warrant specific recommendations. However, the studies of the Bureau of Labor Statistics and the Children's Bureau were sufficient to show some of the national economic problems which give rise to migration, the distress of large numbers of migrant workers, and the acute problem of the communities with which migrants come into contact.

Social Problems

The generally bad living conditions of migrants are accentuated by the prejudice of local communities against migrant workers. The extreme unwillingness of some communities to assimilate the migrant is evidenced most strikingly by border controls of doubtful legality and by fitful campaigns to enforce strictly the local vagrancy ordinances. It is also reflected in the difficulty experienced by relief authorities in obtaining funds for the relief of migrants who are in need. The living facilities of most migrant workers were found to be deplorable and in many cases they were shocking. Families with as many as six children were seen traveling in old cars and trucks, with all their household goods, sleeping at night by the roadside, in squatter camps, or crowded into cheap one- and two-room cabins in tourist camps. Unattached men characteristically hitched rides on railways or highways and slept in "jungle" camps or in the congregate shelters maintained by relief agencies. Occasionally, labor camps were provided for migrant agricultural workers, but even these were frequently crowded, inadequately equipped, and insanitary.

It was found that the migrant worker suffers in comparison with the resident as regards health protection and educational opportunities. The ordinary health services of the community are seldom available to persons without legal residence except in extreme emergencies, and even then such aid sometimes comes too late. Few communities attempt to control venereal and other infectious diseases among the migrants. The children of thousands of migrant families, particularly among migrant agricultural workers, have few or no educational opportunities.

Public relief is granted in most communities only to those persons who have legal settlement. Persons in need but without settlement

¹ Abstract of article by N. A. Tolles, of the Bureau of Labor Statistics, in the Monthly Labor Review for July 1937.

were admitted to relief under the Federal transient program from 1933 until September 1935. Since the liquidation of this program, relief for migrants has been sharply restricted. Such local relief as is available has been generally limited to families with young children, to unattached women, and to the sick and aged. The attempts of both public and private relief agencies to discourage migrants from applying for assistance make it impossible to know even how many are now in need.

While the system of outright grants under the Social Security Act has somewhat relaxed the residence conditions of public assistance based on Federal aid, the worker who moves between States is likely to find himself at a disadvantage in respect to all other features of the social-security laws. Agriculture, which probably employs the majority of these workers who must move continually, is outside the scope of both the old-age and the unemployment protection of the act.

Characteristics and Number of Migrants

No single type of person can be found who is typical of migrants generally. Workers of all races and all ages, whether single or married, become migrants when movement is necessary to find work or to regain health. Certainly the popular picture of the "hobo"—a foreign, single, irresponsible, unemployable drifter—is not characteristic of the mass of migrants today. Indeed, the available evidence suggests that an increasing proportion of the workers who move from State to State are native white Americans, members of families, relatively young, and highly employable.

More than 94 percent of the migrants who received aid under the Federal transient program, 1934-35, were native-born persons. Although Mexicans predominated until recently among the migrant workers of the far West, nearly nine-tenths of the 87,302 migrant workers actually counted as they entered California during the year, 1935-36, were white persons.² For the present, at least, the northward migration of the Negro is also of much less importance than during the 1920's.

Most of the migrants are still probably unattached men. Migration is easier for single men than for women, minors, or family groups, because the single man lacks the social ties and responsibilities of these other persons. However, the migrant family is of increasing importance. One-third of the most recent group of migrant workers whose employment-office records were studied in Chicago were married, nearly one-half had dependents, and more than one-quarter had two or more dependents. Although formerly nearly all of the seasonal migrants in agriculture were single men, a large proportion of such workers in Florida, and nearly all of those who have been counted recently at the California border, were members of family groups.

The common picture of the migrant as an unemployable drifter appears to be the result of sheer prejudice. Indeed, there is positive evidence as to the employability of workers who migrate across State lines. Nine-tenths of the relief cases under the Federal transient program were judged to be capable and willing workers, and under

² Monthly Labor Review for December 1936 (p. 1362). Nativity was not reported.

the final test of ability to obtain jobs in private industry the migrant workers appear superior to resident workers.

In Chicago, private placements were secured for 24 percent of the migrants of 1934-36, as compared with nonrelief placements of only 7 percent of the earlier migrants who had established residence in Chicago. Among both the single and the married job seekers and among job seekers of all age groups, the recent migrants in Chicago secured jobs in private industry through the employment offices more frequently than did the earlier migrants who had established residence.

Although each case of migration is, in some respects, unique, there remain two broad reasons for movement and two corresponding types of migrant workers:

(1) Major economic changes, such as industrialization, drought, and depression, which displace workers in certain areas and force their relocation in other parts of the country. The workers who move in response to such fundamental shifts in opportunity may be called "removal migrants."

(2) Seasonal and irregular fluctuations in the local demands for labor in agriculture or industry, which require many workers in certain seasons but fewer workers in the same area at other times of the year. The workers who move once or more each year may be called "constant migrants."

The relocation of removal migrants from one State to another affects more workers than does continual migration. No basis exists for an accurate estimate of the number of migrants, but census data indicate that more than 9 million persons moved across State lines at least once during the decade 1920-30. Of these, 4.3 millions were immigrants from abroad and more than 4.6 millions were domestic migrants.

Fragmentary information from samples of employment-office records suggests that the number of domestic migrants may have doubled since 1929. This increase in the number of workers moving from one State to another has been offset by the almost complete disappearance of relocation of another kind, the relocation of workers from foreign countries. The shift of the burden of migration from foreign to domestic workers, the concentration of migrants in certain localities, and the difficulty of absorbing or relieving them during a depression have drawn attention to the migration problem, although there has been no proof of any increase in its aggregate size.

Compared with the number of removal migrants, the number of workers who move continually in search of work is relatively small. Paul S. Taylor has recently estimated the number at between 250,000 and 300,000. The constant seasonal migrant is nevertheless worthy of special attention, because the burdens which are borne temporarily by the removal migrant may be part of the regular conditions of life for the constant migrant. Moreover, the worker who moves from one State to another in search of permanent relocation often becomes a constant migrant if he fails to find a satisfactory source of livelihood in any one place. This has been the fate of tens of thousands of recent removal migrants from the drought area. They are to be found wandering constantly through the far West in the attempt to eke out an existence by means of short and scattered bits of employment in different places.

Relocation From Farm to City

The dominant migratory trend within the United States in the twentieth century has been the movement of workers from farm to city. During the decade 1920-30, the urban areas gained a net total of 6.3 million persons from the farms. Some of this movement took place within the States, but the interstate migration which did occur in that decade was evidently dominated by this farm-to-city movement.

The farm-to-city movement dwindled after 1929, as farms promised at least a chance to obtain a bare subsistence, which was lacking for many workers in the cities. Only in 1932 was there a net migration from cities back to the farms, however, and then the net farm immigration involved only 266,000 persons. With the first signs of adequate urban relief and of business recovery the farm-to-city movement was resumed, and by 1936 the rate of this net migration was nearly 450,000 persons per year, or more than three-fifths of the corresponding average movement of the 1920's.

This type of interstate removal has been a necessary adjustment to the restriction of agricultural opportunity in the South and West and to the growing industrial opportunities in the Northeast. There is no doubt that the result of this removal was to improve the position of the interstate migrants themselves.

Relocation From Declining to Developing Areas

Apart from 10 industrialized States³ which gained by migration from agricultural States, 7 States (California, Florida, Texas, Oregon, Washington, Arizona, and Nevada) and the District of Columbia received a net immigration during the 1920's. Six of these eight areas are located in the most newly developed section of the country, the far West. The other two, Florida and the District of Columbia, although not located in the western region, were also developing rapidly. Together, these eight areas obtained 48 percent of the net interstate and foreign inflow of peoples, and California alone received one-quarter of this net migration.

Stranded areas develop as the result of too little emigration from an area where resources are depleted and where the increase of population outnumbers the local opportunities, or from areas which former industries have left. The cut-over forest region of northern Minnesota, Wisconsin, and Michigan illustrates the case of depleted resources. West Virginia and the southeastern region in general illustrate the pressure of population. The Pennsylvania coal fields, the Delaware powder plants at the close of the Great War, and the textile and shoe towns of New England furnish various illustrations of the need for the migration of workers after industry has shifted out of a given area.

Some cases of job relocation appear to be socially unnecessary, as when industry moves to seek lower wage scales or local tax preferences. But whether the reasons for the migration of industry are

³ New York, Michigan, Illinois, New Jersey, Ohio, Connecticut, Massachusetts, Indiana, Rhode Island, and Maryland.

fundamental or artificially induced, migration of workers is clearly desirable once the shift in employment has occurred. Migration gives rise to fewer problems than does the continuance of the stranded communities when there has been insufficient migration.

Relocation of Drought Refugees

A special case of migration is the flight of peoples from the drought-stricken areas of the Great Plains. Actual counts at the California borders have revealed that 78,491 distressed persons from the States of the Great Plains entered that single State during the 21 months June 1935 to March 1937. It is probable that the total exodus has exceeded 200,000 persons, and the volume of this interstate migration is still increasing. Some of those who moved to the Pacific Northwest have been able to relocate successfully on new farms, but in California, where the majority of these refugees went, most of them have been found to become constant seasonal migrants without residence in any one community and without steady employment anywhere.

This exodus from the Great Plains is clearly desirable, in spite of the distress of the refugees. Indeed, the danger is that the movement may cease with a temporary return of good rainfall. The exodus of the 1930's was needed to correct the misguided development of this area in the 1920's. Conversion of land adapted to light grazing into land devoted to the raising of speculative crops involved the plowing up of much of the soil and the overgrazing of the rest. The return of dry seasons after 1933 enabled the wind to complete the destruction. To return this area to its best economic use, emigration from the Great Plains would have to proceed continuously at the present rate for more than a decade.

Relocation of Displaced Farm Tenants

The greatest potential source of future migration in the United States is to be found among the tenant farmers of the southeastern Cotton Belt. The thousands of former tenants now to be found seeking casual jobs in Florida may be only the forerunners of much greater numbers of both white and Negro migrants.

Tenancy in the Old South is the successor to the slave system. Both institutions were, in different ways, devices for holding on the land, on a subsistence basis, sufficient labor to meet the maximum seasonal requirements of agriculture. As a result, the Southeast is now drenched with labor and is therefore especially vulnerable to all forces which may cause the displacement of workers. The depression, followed by the crop-restriction program, has already forced some displacement of tenants. Much greater displacements may be caused in the near future as a result of technical developments. If the mechanical cotton picker is perfected, most of the demand for tenants and wage workers in the eastern Cotton Belt may be eliminated. But apart from the cotton picker, the spread of improved methods already in use is likely to cause considerable displacement. Mechanical equipment and the use of check-row planting are capable of eliminating much of the labor requirement for cotton raising, except in the picking season.

It is questionable whether the land owner of the Old South will continue to provide subsistence the year round for workers who are needed only during a brief season. To compete with the rapidly developing areas of the West and of foreign countries, the plantation of the Old South may be forced to adopt its competitors' method of hiring workers only during the season when their labor is required. In that case a large fraction of the 1 million tenants of the old Cotton Belt may be converted into constant migrants from job to job or be displaced from agriculture altogether.

Seasonal Migration

As long as employers demand much more labor in one season than another, workers must migrate or find some alternative means of subsistence in the local area. In agriculture, and especially in the raising of specialized truck and orchard crops, the labor requirement is small throughout most of the year but very heavy during the harvest. Mechanization, which has eliminated most of the need for migrants for the wheat harvest, is difficult to apply to the harvesting of fruits and vegetables. The dovetailing of various local jobs, which is sometimes possible in populous areas of varied employments, has a very limited applicability in the sparsely populated rural areas of the West. The alternation of direct, productive work on various crops with maintenance work, as on the one-family farm, is not profitable when agriculture becomes highly specialized and highly capitalized, as in California. For these reasons, much of the agriculture of the far West is utterly dependent on the migration of workers to meet peak labor requirements in different places. Workers may be immobilized only if wages during the peak season are sufficient for annual subsistence, which is not the present case, or if relief is granted freely during the slack season.

The greatest and most incessant migration of workers in the United States centers in California. The agriculture of that State was estimated to require in 1935 at least 41,000 workers from outside the counties where they were employed.⁴ Because of the inefficiencies of recruitment, the incomplete mobility of workers, and the preferences of employers for various types of workers, more than 150,000 persons divide the employment which now actually requires perhaps 50,000 workers.⁵ There are few signs of a decline in the use of migratory workers. Some displacement is occurring in the packing of lettuce, but a very rapid expansion of cotton acreage on newly irrigated land may require 10,000 additional migrant workers in the near future. Moreover, the availability of drought refugees encourages the perpetuation of the system of using migrant workers.

Other agricultural areas which now use migrant workers are the cotton and vegetable areas of the Southwest, the apple, hop, and berry regions of the Pacific Northwest, the pea fields of Idaho, the beet fields of Colorado, Wyoming, Montana, and Idaho, the berry fields of Arkansas, and the citrus and vegetable areas of Florida. In most

⁴ California State Relief Administration. *Survey of Agricultural Labor Requirements in California in 1935*. San Francisco, 1936 (pp. 24-27).

⁵ *Monthly Labor Review for March 1937* (p. 540), *Migratory Farm Labor in the United States*, by Paul S. Taylor; and California State Relief Administration, *Migratory Labor in California*, San Francisco, 1936 (p. 47).

areas the numbers of interstate migrants are not known, even approximately, but the recent counts of workers arriving in California by car give some clue to one portion of this constant interstate movement. During the calendar year 1936, 12,839 workers "in need of manual employment" entered California from other States in cars bearing California licenses. Since there was no advantage in securing the relatively expensive California license, except for workers who had previous residence in that State, all of these persons may be safely counted as seasonal migrants. A large proportion of the 6,685 persons entering in cars with Oregon and Washington licenses and some of the 15,683 from Texas and Arizona were probably also seasonal workers.

Not much is known concerning the seasonal migration of industrial workers during recent years. All that can be said with confidence is that the conditions of work in the lumber camps of the Pacific Northwest, in the construction industry in all isolated places, in the canning and packing sheds in many places, and on the ships of the Great Lakes, are such as to encourage the migration of workers. John N. Webb has been able to trace the interstate routes of some of these industrial workers who received aid from the Federal Transient Bureaus.⁶

Employment and Earnings of Migrants

Very little is known concerning the regularity of employment or the comparative earnings of the removal migrants who seek permanent relocation. Information from the pre-war period of heavy foreign immigration and from a study of southern whites in Cincinnati⁷ suggests that the newly arrived workers usually earn more than they earned in the areas which they leave, but that they are the last to be hired and the first to be laid off and that they earn less than similar workers who have stable residence in the areas to which these migrants go. A somewhat different result was obtained from a tabulation of data relating to 409 workers registered at the Chicago Public Employment Offices who moved in various years after 1922. Twelve percent of them moved into higher occupational classes, but 22 percent moved down into occupations of lesser skill than before migration. However, nearly half of these migrants had moved during the depression, and it is therefore probable that the alternative for many of them at the time of migration was complete unemployment at home.

Data as regards the employment and earnings of constant seasonal migrants are also inadequate, but there appears to be a remarkable degree of agreement among the fragmentary studies which are available. Five separate studies of migrants in agriculture show average periods of employment ranging from 40 to 60 percent of the year. While these studies were based on too few cases to allow exact conclusions, it is clear that a substantial proportion of all seasonal migrants fail to find enough work to give them any hope of adequate subsistence.

⁶ See Works Progress Administration, Division of Social Research, Monograph VII: The Migratory-Casual Worker, by John N. Webb, Washington, 1937.

⁷ Data from a study based on the special census of Hamilton County, Ohio, of April 1935, by Grace G. Leybourne, city manager of Cincinnati, and the Regional Department of Economic Security.

As might be expected, there is less uniformity of annual earnings among the various groups of seasonal migrants studies than in the periods of employment of these workers. These studies suggest that adult men among the seasonal migrants in agriculture may average about \$300 per year and that migrant families average perhaps \$400 per year. Assuming an average of two workers and four to five persons per migrant family—approximately the family composition which has been observed in California—it may be estimated that the earnings of migrant agricultural families are equivalent to a wage of only about \$200 per worker, and that they provide maintenance of less than \$100 per year for each member of the average migrant family. Such wages are clearly inadequate for any decent level of existence.



Migratory, Casual, and Part-Time Workers on Farms

Hundreds of thousands of hired farm workers, many of them with their families, regularly follow the crops and seasons.¹ The number varies with such circumstances as crop conditions and opportunities for other kinds of work. There has been until recently a remarkable indifference regarding their income, their living standards, the limitations of their peculiar mode of existence, and the ultimate social burden resulting from their lack of opportunity to identify themselves with normal community life.

Formerly, the most notable phase of migratory farm labor was connected with the harvesting of wheat, but most of this labor was supplanted during the 1920's by machines, especially by the combine harvester for cutting and threshing in one operation. In the cotton industry, chopping and picking require, during limited periods, exceptional amounts of labor. The chopping process has been mechanized in part, especially in the western cotton areas, by check-row planting and cross-cultivation. Successful experiments have also been made in the mechanized picking of cotton. There is still, however, a large demand for migratory workers both for chopping and picking. Migratory cotton pickers in Oklahoma and Texas alone have been estimated as numbering more than 50,000. Many of these workers follow the season from the Gulf northward into the Texas Panhandle and Oklahoma, a distance of almost 1,000 miles.

In the eastern part of the country, the apple areas, especially of the Shenandoah Valley, and the citrus-fruit areas of Florida, with highly seasonal demands for labor, contribute significantly to the interregional flow of workers. New methods of transporting perish-

¹ For a summary of migratory labor, see Monthly Labor Review, March 1937: "Migratory Farm Labor in the United States," by Paul S. Taylor (reprinted as Serial No. R. 530). The summary here given makes extensive use of this article, and also of Migration of Workers: Preliminary Report of the Secretary of Labor, pursuant to S. Res. 298 (74th Cong.), 2 vols., Washington, 1938 (mimeographed). Numerous other sources on casual labor and underemployment include the following: Monthly Labor Review, July 1937, "A Survey of Labor Migration Between States," by N. A. Tolles (reprinted as Serial No. R. 592); special surveys of farm labor in 11 counties, by Tom Vasey of the Farm Security Administration and Josiah C. Folsom of the Bureau of Agricultural Economics, published separately for each county and summarized extensively by Paul S. Taylor in vol. 2 of Hearings on Unemployment and Relief, before a special Senate Committee (75th Cong., 3d sess.), pursuant to S. Res. 36; California State Relief Administration, Division of Special Surveys and Studies, Migratory Labor in California, San Francisco, 1936; and U. S. Bureau of Agricultural Economics, Farm Labor Conditions in Gloucester, Hunterdon, and Monmouth Counties, New Jersey, April-May, 1936, by Josiah C. Folsom, Washington, 1939.

able fruits and berries to distant markets and improvements in refrigeration, canning, and preserving have brought about a great expansion of demand for seasonal workers in various regions. Some families follow the strawberry harvest from Florida through Louisiana, Arkansas, Kentucky, and Illinois into Michigan, and remain in the Michigan Peninsula and the islands of Lake Erie after the berry harvest to pick grapes and peaches. Many thousands of workers move each year from all directions into the strawberry areas of Arkansas. Many of these workers are a part of the general flow of migrants from Florida to Michigan and back again. Some of them merely take advantage of the Arkansas berry season and return with their families to their homes at the end of the season. Still others, following the berry harvest northward into Missouri, later seek employment in the wheat harvest from Kansas northward into Canada. Still another group that takes part in the Arkansas berry harvest comes from the North Central States and moves southward through Missouri and Arkansas and southwestward for the cotton-picking season, returning North in the winter.

The variations in the period of harvesting tomatoes illustrate the regional and seasonal variations in the growing and harvesting of vegetables. The peak of the carlot shipments of tomatoes begins in Florida, where it extends from March to May; in Texas the peak season is in May and June; in Mississippi, in June; and in Tennessee, in June and July.

The sugar-beet industry, in several areas extending from California to Michigan, has given rise to distinctive types of seasonal employment. Workers in this industry move in the spring to the sugar-beet areas for the cultivating and topping of the beets, usually on a contract basis, and for the most part remain until after the harvest season, when they return more or less regularly to the same winter quarters.

Migratory farm labor is especially important in the Pacific Coast areas. The problems of migratory labor in that region have been accentuated by the tendency of unemployed workers and displaced farmers in other areas to move westward. The numerous products, which include citrus fruits, apples, small fruits, vegetables, cotton, and beets, offer a wide range of employments extending through several months of the year. There are many streams and eddies in the flow of workers in that region, but the main flow covers the Imperial, San Joaquin, and Sacramento Valleys and extends a distance of more than 500 miles. Carleton Parker, a noted early student of casual labor,² estimated that as early as 1915 the number of migratory workers, mostly farmers, in the Pacific Coast areas was about 150,000. In 1935, the number of workers needed in 33 agricultural counties of California, as estimated by the California Relief Administration, was 198,000.

The mechanization of wheat harvesting has eliminated most of the demand for migratory workers in this field. Rapid mechanization in various other fields, notably the increased use of tractors, has occurred at a time of increasing difficulty in expanding or even maintaining market demands for farm products. The amount of em-

² His book, *The Casual Laborer* (1920), and his lectures and articles stimulated an interest that survived him and contributed to recent work in this field.

ployment available has thus been reduced, and the demand for labor has tended to become concentrated during shorter periods and in more limited areas. In some areas, notably the Old South, the local labor supply meets most of the needs even during peak periods, and mechanization in these areas tends to increase the already serious underemployment or to force a part of the labor supply into the ranks of migratory workers.

Migrants necessarily spend a considerable part of their time in moving from job to job, even during the periods of peak agricultural employment. Comparatively few hired farm workers are able to obtain employment during more than 6 months of the year. The limited amount of work available, combined with low wage rates, has made necessary a widespread dependence on relief. The California State Relief Administration pointed out, for example, that a ranch may need 300 workers at harvest time, but may employ less than 10 regularly throughout the year; and since few of the workers are able to obtain much nonagricultural work, a large proportion of them necessarily depend at times on relief. A study of 775 workers in California in 1935 indicated that only 18 had work in 12 months of the year; only 23 had work in 11 months; and only 40 in 10 months. The mean average number of months was 5.9. Half of the workers had employment during less than 6.4 months of the year. In most of these cases, the limited amount of work available was obtainable only by their seeking work in more than one county or community, with intervening periods of unemployment. Although information is fragmentary, studies of migratory workers give fairly consistent results. The usual range of employment is from 40 to 60 percent of the year.

Part-time or casual employment is not confined, however, to migratory and casual farm workers. A survey of three New Jersey counties in the spring of 1936 included almost none of the casual laborers who obtain work in these counties after the middle of May. The job expectation of the regular farm workers ranged from an average of 4.3 months in a truck-growing area to 9.1 months in a region of general farming and trucking. Only four of the total number of workers canvassed reported having worked throughout the year. Among the 1,667 workers whose employment status in 1935 was ascertained, 1,509 reported employment in agriculture only.

In special surveys of 11 counties in 1936, covering for the most part regular hired farm workers, those who worked less than 120 days in all employments, both agricultural and nonagricultural, ranged from 5.6 percent in Livingston County, Ill., to 64.9 percent in Concordia Parish, La. The county with the median percentage was Lac Qui Parle in Minnesota, with 27.4 percent. Probably two-thirds of the farm workers included in these surveys were employed less than 8 months of the year.

The total number of days of employment of all persons working on farms for wages in 1929, as reported to the Bureau of the Census, was 410,985,000. The number of adult hired farm workers who depend largely on wages in agriculture, is indicated approximately by the average number of hired farm workers employed in January,

February, March, and December, when there is little special or casual work done. The average for these months in 1929 was 2,246,000. The total number of days of employment of all hired workers, when divided by the estimated number of workers in the slack months, is a liberal basis for estimating the average amount of work obtainable. The average, estimated even on this basis, assuming 25 working days per month, is only 7.3 months. A similar estimate is obtainable by a comparison of the full-time average earnings as estimated from wage rates with the estimated average earnings actually obtained. In 1929, the farms reporting hired workers averaged only 156 days of hired labor.

There has been an extensive migration of farmers seeking new permanent locations as distinguished from the flow of hired labor in response to seasonal and irregular demands. Historically, this was the main characteristic of agricultural migrations in America, but these earlier migratory movements were under radically different conditions of free land, an expanding frontier, and an inflow of population from other countries attracted by liberal opportunities.



Migratory Cotton Pickers in Arizona ¹

According to a study made by the Works Progress Administration,² labor-recruiting advertisements by the cotton growers of Arizona in 1937 implied that a good picker could pick from 300 to 400 pounds of cotton per day and consequently earn from \$14 to \$19 per week. The reported earnings, however, of 518 families and unattached persons showed that only 1 cotton picker in 33 averaged as much as \$16 per week in Arizona. The average income per week of a picker working alone was \$7.95; and 1 picker in 4 earned under \$6. These earnings included perquisites as well as cash. Income per picker declined sharply in families having more than 1 picker.

The average income per week for families on cotton-picking jobs in Arizona was \$10.14, which was considerably under the average reported for such work in California and Texas. Employment on cotton provided lower earnings per week than other migratory work. The average cash income of the 518 families and unattached persons from all paid employment in 1937 was \$393. The earnings of more than one-fourth were under \$300 including perquisites. Since the migrant cotton pickers were employed only a part of the year in Arizona, the wage scale for cotton pickers in that State is not wholly responsible for these low incomes.

Although a few cotton camps are well equipped, most of them are crowded and unsanitary and the poorest ones are reported as "unutterably wretched." According to the State board of health, operations "under such conditions should be prohibited by law in the interest of public health and common humanity."

Eighty-five percent of the migrants who left home for the first time in 1937 came from Arkansas, Missouri, Oklahoma, and Texas—the

¹ From the Monthly Labor Review for January 1940.

² U. S. Works Progress Administration. Division of Research. Migratory Cotton Pickers in Arizona, by Malcolm Brown and Orin Cassmore. Washington, 1939.

four principal States in which the cotton growers of Arizona have conducted their recruiting campaigns for the past 10 years. Oklahoma alone accounted for 54 percent of the migrants and Texas for 17 percent.

Agricultural Situation in Its Relation to Labor

In recent years Arizona cotton growers have become more dependent upon migrant workers, as a result of the rapid extension of cotton acreage and the increase of industrialized farming under the cash-lease plan. Other important irrigated crops in the State have not kept pace with the expansion in cotton production. Instead of diversifying the crop the tendency has been to plant more and more cotton. The need for seasonal labor has consequently become greater and the opportunities for workers in the off-season in other crops have declined.

Operators leasing land under the cash-lease system have little choice concerning the crop to be planted. The uncertainty of the market tends to discourage both lettuce and citrus cultivation. The cash yields on alfalfa and grain crops are low. Cotton crops, on the other hand, bring in cash the first year of cultivation, are readily financed at the opening of the season, have a comparatively stable market, and offer the possibility of substantial profits per acre.

Harvesting cost plays an extremely important part in determining the total cost of cotton production in the irrigated areas. The margin on which the irrigated-cotton grower operates is made more precarious by the fact that a given change in the rate of pay for picking produces three times that change in the cost of lint, since the picking wage is based upon the gross weight of seed cotton, which nets only one-third lint after ginning. Thus, a difference of 10 cents a 100 pounds in picking means a difference of 30 cents a 100 pounds in the cost of lint.

The Needs of Migrants

The conditions of migratory labor are intimately bound up with the general poverty in the Western Cotton Belt, from which the great majority of these migrants come, and the usual Southwestern farm economy with its need for vast numbers of cheap, mobile, seasonal workers.

As long as the Southwestern farm economy depends upon seasonal labor in excess of the supply of resident workers, migratory labor cannot be eliminated. The investigators hold, however, that the conditions under which these migrants work could and should be improved. "Higher wages, a stricter observance of sanitary conditions in private camps, and extension of Farm Security Administration camp facilities are socially desirable, not only in the interest of the migrants themselves but also in the interest of the regions in which they move about."

It is further recommended that labor-recruiting activities be controlled, that better guidance may be made available to migrant workers through the United States Employment Service; and that a program of public relief be instituted to aid migrants temporarily in need during the inevitable slack seasons.

Agricultural Labor-Contractor System in California ¹

An important factor in the migratory-labor problem in a number of the Western States is the hiring of seasonal workers by agricultural-labor contractors who habitually move or transport persons across State lines. A report on the labor-contractor system, particularly as it affects California² was presented at hearings of the Tolan Committee³ in San Francisco.

Definite patterns of migration within particular States, which form part of the larger interstate movement of population, have been established by these contractors, and even when their activities are restricted to a single State, they serve as a contributing factor to the general problem of interstate migration, since they attract many migrants from without the State.

The labor-contractor system in California originated in the use of alien racial minority groups in agriculture, particularly the Chinese and Japanese, many of whom did not speak the English language and were largely dependent upon leaders in their own groups who did speak English. Other factors which favored the development of the contractor system in the early days were the limited transportation and camp facilities, the lack of public employment services, and the fact that workers needed guidance to find employment from crop to crop, from area to area, and from season to season—a service which the labor contractor, because of his experience, was able to give.

Although the use of alien immigrant labor in California has definitely decreased, there is hardly an important agricultural area in the State in which labor contractors do not operate. There are about 150 labor contractors registered with the State Department of Industrial Relations, while it is known that the number of unlicensed contractors greatly exceeds that of the licensed. The number of workers employed by these contractors varies from as few as 6 to 500 or 600 in numerous instances.

Some contractors restrict their operations to a single locality, but many follow a definite pattern of migration from year to year, so that they have come to be looked upon by growers as the agencies through which a fixed seasonal labor supply may be recruited. These contractors move from area to area within the State, and in some instances as far as Oregon, Washington, Idaho, and even to Utah, and back.

The system is especially entrenched in those branches of agriculture where the packing, processing, canning, shipping, and refrigeration of products is carried out—where crops are purchased in the field by the canneries or processing concerns which undertake, as part of the contract, to harvest the crop. The contract system operates for most of the fresh vegetable, fruit, and nut crops as well as for cotton and sugar beets. The majority of the contractors operating in California are Filipinos and Mexicans, and although they show a preference for employment of members of their own race, many white American workers are employed. Contractors have a virtual monop-

¹ From the Monthly Labor Review for February 1941.

² California. Division of Immigration and Housing. Testimony of Carey McWilliams before the Tolan Committee, at San Francisco, Calif., September 25, 1940. [Sacramento?], 1940.

³ U. S. Congress, House of Representatives, Select Committee Investigating the Interstate Migration of Destitute Citizens.

oly in the harvesting of peas, and in this crop especially many white Americans and "dust-bowl" migrants find employment. This system is widely used also in such crops as asparagus and sugar beets; in the latter crop, arrangement for the use of contractors is usually made in the office of the refinery. The majority of the contractors work for a number of employers, in some cases for as many as 30 or 40, but in a few cases they are more or less definitely employed on a year-to-year basis by the large produce firms.

Results of the Labor-Contractor System

Because responsibility is divided between employer and contractor, the tendency has been for the primary employer to shift responsibility more and more to the labor contractor in such matters as workmen's compensation, the maintenance of labor camps and housing, expenses incidental to the recruitment of labor, transportation of workers, etc. In only one district of the State is there any organization of the contractors, with the result that the competition between them is almost as great as that among agricultural workers for jobs. Since there is an entire lack of uniformity in contracts between employers and labor contractors, and in many cases the contracts are not even in writing, the fixing of responsibility becomes difficult if not impossible. This results in many grave abuses, and the operation of the system has a direct tendency to prevent the organization of workers for the purpose of self-protection. Another factor making for irresponsibility under the system is the fact that not only the workers, but the labor contractors as well, are migratory.

The system has a tendency to lower living standards, especially in areas in which the contractors monopolize employment, since in the effort to get cheap labor the contractors show a preference in employment for those having the lowest living standards.

Since most labor contractors are entirely without financial resources and cannot finance a pay roll, they are obliged to resort to various credit devices until they, in turn, are paid. The usual method of payment is by tickets or scrip to be used to purchase commodities at certain stores with which the contractors have made arrangements for credit. This limits the workers to buying in these stores, and also leads to a considerable amount of barter among the workers or to their selling their tickets at a cash discount. Because of the merchant's risk as to repayment, higher prices are commonly charged for purchases by ticket. The contractors are not entirely responsible for these abuses, since there is no standard method by which they themselves are compensated, and in any event their returns are usually not large. However, the workers suffer not only from the methods of wage payment, but from being overcharged by the contractor for various services—transportation (often in unsafe trucks or vehicles), poor camp facilities, failure of work opportunities after being moved into a particular area, and excessive charges for board in cases in which this is furnished.

Perhaps the most serious disadvantages of the system, as is said, are that it offers no opportunity of advancement to the workers; no possibility of steady employment; and no possibility of establishing an employment record through continuity of employment.

Patterns of Agricultural Labor Migration Within California¹

The numbers of migratory agricultural workers in California remain to be measured. However, from the limited data available and from observation, there would appear to be no ground at present for lowering the prevailing estimate of 150,000 men, women, and children who at some time during the year leave their residence, if any, in order to work in the crops. On the other hand, the measured influx into the State in the $2\frac{3}{4}$ years of almost a quarter of a million migrants, principally from agricultural areas and with former agricultural experience, seems to warrant an increase in the estimates.

The peak seasonal labor requirements of different areas occur at different times. Thus, in southern California they occur in February and March and again in September and October. In the San Joaquin Valley they occur in August, September, and October. In the Sacramento Valley they occur in May and June. In the valleys of the central coast they occur variously from May to October. Within each of these major areas the labor peaks of particular localities arrive at different dates. The result is a continual movement by laborers' families in the endeavor to dovetail brief periods of employment. One study reported that one-fourth of a group of 136 migrant families traveled more than 1,000 miles between jobs in California agriculture within a year.²

Routes of Migration

The diversity of routes followed by the migrants is almost infinite, for the agricultural labor market is highly disorganized and laborers move about from crop to crop according to their own information as to the location of probable employment. Furthermore, their choice of routes is affected by differences in their earning capacity in different crops, which depend partly upon skill and experience and partly upon whether the men are accompanied by women and children who can obtain employment in some crop operations but not in others. Besides, they are influenced by the satisfactory or unsatisfactory character of their experience working for particular employers the preceding year, by expectations of good and poor crops, and by the location, if any, which they regard as their base of operations.

Some routes may be suggested to illustrate the surges of migration. Of course the actual variations of individual migrations approximating these patterns are numberless. A well-filled year might include picking peas in Imperial Valley in February and March, at Nipomo on the central coast in April, and in Alameda County or Yolo County in May; picking apricots in Contra Costa County in June, and in Santa Clara County in July; picking grapes in Fresno County in August and September, and peas in October; picking peas in Imperial Valley in November and December, and awaiting the maturity

¹ Abstract of article by Paul S. Taylor, of the University of California and consultant to the Social Security Board, and Edward J. Rowell, of the Farm Security Administration, in the *Monthly Labor Review* for November 1938. This study is part of researches supported by the Farm Security Administration and the Social Security Board. Other articles based upon these studies were printed in the February 1936, December 1936, and March 1937 issues of the *Monthly Labor Review*.

² California State Relief Administration. *Agricultural Migratory Laborers in the San Joaquin Valley*. December 1937. (Mimeographed.)

of the next pea crop in February. Some migrants find alternative spring employment in the citrus belt of Tulare County. For other migrants the year's work goes somewhat as follows: Pea picking in Imperial Valley in February and March, potato picking or cotton chopping in Kern County in May and June, apricot picking in Kings County in July, grape picking in Fresno County in August, and cotton picking for the rest of the year in Kern County.

Filipino migrants, comprising young, single men with hardly an exception, commonly work back and forth between lettuce crops in the Salinas and Imperial Valleys and the grape harvest in Fresno County, or between the sugar-beet crop in the Salinas or Sacramento Valleys, the asparagus crop in the Stockton Delta, and the grape harvest in the San Joaquin Valley. Filipinos practically never pick cotton.

Mexican migrants, who move typically in family groups, frequently doetail work in lettuce and cantaloupes in Imperial Valley with peach and apricot picking near Hollister or in the Santa Clara Valley, and grape picking near Fresno. Cotton picking in the San Joaquin Valley or walnut picking in Ventura County also appear in the routes as alternative employments in the fall.

Three routes actually followed by particular migrant families in 1934 may be set down as examples:

Mexican family.—Salt River Valley, Arizona, for lettuce, January–March; Imperial Valley, tying carrots, March–June; Conejos, picking apricots, June; Tulare County, picking peaches, July–August; Fresno County, picking plums, August; Tulare County, picking cotton, September–November; Salt River Valley, for lettuce, November–March.

Washington family.—Cazadero, for independent trapping, January–March; Yuba City, thinning peaches, March–May; Sonoma County, picking cherries, May–June; King City, picking apricots, June; Sonoma County, picking apples, June–July; Exeter, peach dry yard, July–December.

Oklahoma family.—Wasco and Buttonwillow, picking cotton, planting and picking potatoes, January–August; Selma, picking peaches, August; Shafter, picking cotton, September–December; Wasco, picking cotton, December.

Except for work near Selma, in Fresno County, the year's migration of the Oklahoma family was entirely within Kern County.

Although labor peaks are occurring continuously in different areas within the State, the employment of particular families is generally extremely discontinuous. Distances to be traveled, difficulties in connecting promptly with job opportunities, competition for jobs, weather and price fluctuations, and the unevenness and short duration of labor peaks all operate to prevent attainment of steady employment by the migrants.

Migration Within Imperial Valley

Imperial Valley, in southeastern California, is one of the principal areas of agricultural production dependent on migratory labor. Its labor population moves about restlessly within the valley, and in large numbers flows in and out of the valley according to the seasonal demand elsewhere. This extreme development of labor mobility, coupled with opportunity to use a statistical index better than usually is available, led to selection of Imperial County for special analysis.

Most of the field labor in intensive crops in Imperial Valley is performed by Mexicans.³ Also, the Mexicans move about largely in

³ For background of agricultural labor in Imperial Valley see Paul S. Taylor: *Mexican Labor in the United States—Imperial Valley* (Univ. Calif. Pub. Econ. VI, No. 1, 1928).

family groups. The segregation of school enrollment data into Mexican and non-Mexican children, therefore, permits use of Mexico enrollment statistics as a monthly index of the presence or absence of field laborers in the school district.

Peak seasons.—The extreme variability which characterizes the movement of the laborers is clearly shown in the school-enrollment statistics. Fluctuations occur with great irregularity as well as with great intensity. For example, the average number of Mexican children enrolled in schools with fall peak rose from 147 in 1929-30 to 334 in 1932-33, and fell as low as 92 in 1934-35. The proportion of Mexican children to all children in these schools rose from 24.6 percent in 1929-30 to 46.3 percent in 1932-33, but fell only to 37.9 percent in 1934-35. The greatest range of fluctuation occurred in 1929-30, when enrollment varied from as high as 125.9 percent of the annual average in November to as low as 58.5 percent in June. Peak enrollment was 185, or 215 percent of the 86 children enrolled in the slack month.

The number of Mexican children enrolled in schools with peak in the winter rose from an average of 1,692 in 1929-30 to 2,073 in 1932-33, but fell to 547 in 1934-35, principally because Brawley shifted to the spring-peak group in the latter year. Besides, the lettuce harvest, which occurs in winter months, fell from 12,608 carlots in 1929 to 6,356 in 1935. The proportion of Mexican children to all children in these schools fell from 39.6 percent to 24.5 percent. The greatest range of fluctuation occurred in 1929-30, when enrollment varied from 71.2 percent of the annual average to 132.2 percent. Enrollment rose from a low point of 1,204 in October to a peak of 2,237 in February, or 186 percent of the low.

The number of Mexican children in schools with spring peak enrollment fell from an average of 868 in 1929-30 to 475 in 1932-33, but rose to 2,144 in 1934-35, mainly because of the inclusion of Brawley in this group for the first time in the latter year. The proportion of Mexican to all children enrolled in these schools rose from 24.8 percent in 1929-30 to 44 percent in 1934-35. In the latter year, the peak enrollment in April was 2,445, or 171 percent of the low enrollment of 1,432 in October.

Irregular mobility.—If the mobility in the above school-enrollment data was regular, year after year, the educational and social problems which they entail would be much simpler than they are. But the fluctuations are irregular in the extreme. In 1932-33 there were 21 school districts in which peak enrollment occurred during the same season (or in which enrollment was stable) as in 1929-30, but 20 districts recorded a different seasonal peak than 3 years earlier. In 1934-35 only 19 districts were in the same seasonal group as in 1932-33, and 22 were not. And in 1934-35 only 15 districts were in the same seasonal group as they had been barely 5 years earlier, while 26 districts were not. The important district of Heber, which lies midway between El Centro and Calexico, recorded peak enrollment in winter in 1929-30, in the fall in 1932-33, and in the spring in 1934-35.

Mobility and educational problems.—Because of this extreme and highly irregular mobility, educational authorities are faced with the problem of providing facilities for children ranging from as low as 86 percent of the annual average in October to 107 percent in March. They must provide for children from homes with foreign mother tongue whose enrollment ranges from 75 percent of the annual average

in October to 109 percent in February, and comprises 36 percent of total enrollment in the county in October and nearly 44 percent in June. Enrollments in particular districts exhibit even greater fluctuations than all schools in the Valley together, during the same year, and these fluctuations recur irregularly from year to year, making advance provision difficult.



Refugee Labor Migration to California ¹

Between July 1, 1935, and March 31, 1938, 241,930 individuals (i. e., migrants in need of manual employment and members of their families), residents of other States, entered California. The border count was made by the Bureau of Plant Quarantine, California Department of Agriculture. As shown in the following table, some 42,000 immigrated in the last half of 1935, 85,000 in 1936, 90,000 in 1937, and 24,000 in the first quarter of 1938. The movement was characterized by its steadiness throughout the period.

Migrants "in need of manual employment" entering California by motor vehicle, by States, July 1, 1935-Mar. 31, 1938 ¹

State of origin	Total, 33 months		1935: Last 6 months	1936	1937	1938: First quarter
	Number	Percent				
All States excluding California:						
Number.....	241,930	100	42,559	84,833	90,761	23,777
Percent.....	100.0	100	17.6	35.1	37.5	9.8
Drought States.....	205,477	84.9	32,185	73,187	78,332	21,773
Oklahoma.....	58,153	24.0	7,561	22,989	21,709	5,894
Texas.....	24,559	10.1	3,631	8,304	8,723	3,901
Arizona.....	25,018	10.3	3,097	7,329	10,613	3,979
Arkansas.....	19,204	7.9	2,866	6,890	7,232	2,216
Missouri.....	16,205	6.7	2,426	5,873	6,316	1,590
Kansas.....	11,128	4.6	2,238	3,900	4,484	506
Colorado.....	8,393	3.5	1,584	2,249	3,702	858
New Mexico.....	7,616	3.1	1,578	2,440	2,680	918
Nebraska.....	7,651	3.1	1,258	3,019	3,024	350
Idaho.....	5,258	2.1	1,193	1,733	2,012	320
Montana.....	3,038	1.3	834	969	1,102	133
Utah.....	3,027	1.3	678	1,069	1,063	217
Iowa.....	3,368	1.4	703	1,474	1,024	167
Nevada.....	2,342	1.0	502	614	923	303
North Dakota.....	2,346	1.0	532	912	834	68
Minnesota.....	2,086	.9	487	825	707	67
South Dakota.....	2,824	1.2	468	1,067	1,164	125
Wyoming.....	1,836	.8	337	738	659	102
Wisconsin.....	1,425	.6	212	793	361	59
Pacific States.....	22,476	9.3	5,822	6,685	8,831	1,138
Oregon.....	14,305	5.9	3,629	4,384	5,592	700
Washington.....	8,171	3.4	2,193	2,301	3,239	438
Industrial States.....	8,891	3.7	3,106	3,261	2,091	433
Illinois.....	2,617	1.1	818	1,066	605	128
Michigan.....	2,068	.9	658	827	456	127
New York.....	968	.4	486	274	186	22
Ohio.....	1,260	.5	436	468	259	97
Indiana.....	1,128	.5	319	444	331	34
Pennsylvania.....	578	.2	278	106	188	6
New Jersey.....	272	.1	111	76	66	19

¹ Data collected by border inspectors of Bureau of Plant Quarantine, California Department of Agriculture.

¹ Abstract of article by Paul S. Taylor, of the University of California and consultant to the Social Security Board, and Edward J. Rowell, of the Farm Security Administration, in the Monthly Labor Review for August 1938.

Migrants, "in need of manual employment" entering California by motor vehicle, by States, July 1, 1935-Mar. 31, 1938—Continued

State of origin	Total, 33 months		1935: Last 6 months	1936	1937	1938: First quarter
	Number	Percent				
Southern States.....	4,492	1.9	1,205	1,516	1,346	425
Tennessee.....	1,084	.4	298	371	294	121
Georgia.....	464	.2	207	140	96	21
Louisiana.....	672	.3	145	190	258	79
Florida.....	405	.2	95	176	98	36
Alabama.....	457	.2	120	153	137	47
Kentucky.....	421	.2	101	152	137	31
Mississippi.....	358	.1	71	143	101	43
Virginia.....	103	(2)	57	23	23	-----
West Virginia.....	91	(2)	32	29	19	11
Maryland.....	109	(2)	29	50	24	6
North Carolina.....	194	(2)	15	58	109	12
District of Columbia.....	49	(2)	19	16	14	-----
South Carolina.....	80	(2)	16	12	34	18
Delaware.....	5	(2)	-----	3	2	-----
New England States.....	594	.2	241	184	161	8
Massachusetts.....	278	.1	113	79	86	-----
Rhode Island.....	58	(2)	31	10	17	-----
Maine.....	43	(2)	40	-----	3	-----
Connecticut.....	151	(2)	36	67	40	8
Vermont.....	36	(2)	13	15	8	-----
New Hampshire.....	28	(2)	8	13	7	-----
California.....	42,812	-----	9,901	12,839	14,215	5,857

² Less than 1/10 of 1 percent.

Practically 85 percent of the migrants came from States classed as "drought States" by the FERA in 1934. Oklahoma alone was the State of origin of 58,143, or 24 percent, and in combination with Texas, Arizona, and Arkansas accounted for over 50 percent of all out-of-State migrants. Less than 4 percent came from the industrial States, less than 2 percent from the Southern States, and only 0.2 percent from New England. The remainder, 9.3 percent, came from the Pacific States of Washington and Oregon.

The unabated persistence of the influx throughout the year 1937, a year during which the drought areas were greatly restricted, leads to the conclusion that, important though it was, drought was but a final straw added to fundamental changes that have been transpiring during the last decade and a half. The more plausible explanation of the movement now seems to be that it is the cumulative result of low cotton prices in the immediate post-war period and in 1932, the droughts of 1934 and 1936, and a growing use of mechanical apparatus, particularly the all-purpose tractor, in the areas of greatest emigration. These factors, in combination, reasonably account for a decline in economic status leading eventually to complete severance of all ties, and to migration as a means of escape from a permanently constricted sphere of economic activity.²

Family Composition and Race of Migrants

Border data show the predominantly family characteristics of the migrants. Of the 259,654 migrants who entered the State between June 16, 1935, and December 31, 1937, 42,449 traveled singly and

² See Monthly Labor Review for March and April, 1938.

217,205 as members of family groups. During this period of 2½ years there was no marked change in the relative proportion of single individuals to families. However, it is probable that the number of single individuals entering the State was concealed by their attachment in some cases to family groups, and that the actual number of single persons was greater than shown.

There seems to be some slight tendency toward an increase in the number of passengers per car. In 1935 the average was 4.1, in 1936 it was 4.6, and in 1937 it rose to 4.7. Migrants from Oklahoma, Arkansas, and Missouri had an appreciably higher number of passengers per car than the travelers from the other States which are important sources of emigration.

The great majority of the migrants are of the white race, and observation confirms that they are of native American stock. Mexican migrants are principally returning Californians, Arizonians, Texans, and New Mexicans. They constitute, however, less than 4 percent of the migrants. The Filipinos rank immediately after the Mexicans in importance, and they travel characteristically as individuals. Negroes lag in numbers behind the Mexican and Filipino groups, but it is possible that the Negroes may play an increasingly important role in the future.

Routes of Entry

Roughly, 6 of every 10 migrants entering California do so via highways crossing the State of Arizona. The routes of entry of the remainder are divided almost equally between Oregon and Nevada. The preponderant use of Arizona as a route of entry is explained by the geographic origin of the great majority of the migrants and by the existence of greater work opportunities while en route through Texas, New Mexico, and Arizona (particularly the last-named) during the fall and winter months. To a lesser extent the volume of the flow across the Arizona border is also affected by seasonal exchanges of agricultural workers between California and Arizona.

Occupational Status of Refugees

The S. R. A. of Imperial County, Calif., has tabulated the previous occupational status of the heads of the 320 transient families who requested relief between 1935 and the middle of 1937 and whose previous residence in another State was verified. The significance of this sample lies in the fact that Imperial County is the gateway through which a large part of the refugees enter California and the place where many of them find their first employment. However, since these families represent relief applicants only and are drawn from a single county, they obviously constitute a sample statistically inadequate to represent a migration to California which has numbered from ninety to one hundred thousand persons a year during the past 3 years. Generalizations based upon close numerical comparisons, therefore, should be avoided. Nevertheless, the data reveal the occupational character of the migration in its broad outlines.

Previous farm experience was reported by 175 family heads or more than one-half of the total. Five had been farm owners, 43 had been tenants, 38 had been sharecroppers, and 106 had been farm

laborers. A few reported they had worked in more than one farm status, probably in most instances representing descending steps on the agricultural ladder. The proportion of persons with farm experience, including experiences in grades above laborer, is markedly higher among those from Oklahoma, Texas, and Arkansas, the principal sources of the migration, than among the refugees as a whole.

It is a common story among former farm owners who have joined the migrants in Imperial County that they lost their equities, when the price of cotton fell after the war, and became tenants or sharecroppers; that they became laborers and later migrants when cotton prices fell again in the early thirties and when this depression was followed by drought and by mechanization of the cotton farms.

Sources of Emigration

The eastern Oklahoma cotton area, characterized by the census as "cotton, some livestock, dairy, self-sufficing," was the source of 44, or 14 percent, of the entire 320 transient families. Of these, 38 came from farms; 2 had been owners, 12 tenants, 10 sharecroppers, and 15 farm laborers.

The Southwest Oklahoma-Texas cotton area was the origin of 38 of these families who requested relief in Imperial Valley. Of these, 28 were from farms. Nine had been tenants, 11 sharecroppers, and 11 farm laborers. In both areas drought, depression, and recently power farming have been active factors in dislodgment of rural population.³

Among other areas of concentrated exodus are to be noted:

(1) Central Oklahoma (general farming, cotton, livestock, dairy, poultry) was the origin of 15 transient families of whom 2 were tenants, 1 a sharecropper, and 3 farm laborers.

(2) Northeast Oklahoma (general farming, livestock, dairy, poultry, self-sufficing) was the origin of 12 transients of whom 2 were tenants, 5 sharecroppers, and 3 farm laborers. Six emigrants reported nonfarm occupations. The entire eastern half of Oklahoma, together with adjoining counties in Kansas, Missouri, and northwestern Arkansas, have recently been characterized as "an outstanding problem area" of "low industrial stability, superimposed on submarginal agriculture."⁴

(3) Ouachita Mountains⁵ in western Arkansas and eastern Oklahoma where self-sufficing agriculture predominates, with some cotton and general farming, was the origin of 16 transient families, of which 2 were tenants, 2 sharecroppers, and 4 farm laborers (one had status as both sharecropper and laborer). Seven family heads previously engaged in occupations other than farming.

(4) Plains. From both high and low plains in west central Texas where drought and mechanization are dislodging cotton farmers, many emigrants have come to California. Of the eight transient families reported from this area, the heads of five were farm laborers, two of whom had also been tenant and sharecropper.

The Negro is already beginning to appear among the emigrants, although the overwhelming majority are native American whites. In the Imperial Valley group of transients there were only eight Negro families from Oklahoma and three Mexican families from Texas and Arizona. Some day the racial aspects of this migration to the West may assume greater importance, as they already do in the migration of farm families of the Southeast into Florida.

³ See Monthly Labor Review, March (p. 595) and April (p. 852) 1938.

⁴ Survey Graphic, June 1938, p. 350. Hard-Core Unemployment; the Challenge of Permanently Depressed Areas, by Perce Williams.

⁵ Type of farming area No. 248. Counties: (Okla.) Atoka, Latimer, LeFlore, McCurtain; (Ark.) Logan, Sebastian, Yell.

The necessity, therefore, of close observation of these areas and factors, of the collection of more extensive migration data, and of their analysis by status of the migrants and by counties of origin, should be obvious. Only in this way can the problems which arise when more emigrants join the flooded agricultural labor markets of the West be anticipated and met.



Drought and Depression Migration Into Oregon, 1930 to 1936 ¹

Migration into the Pacific Coast States increased following the drought and depression years of 1932 and 1934. More recently, it has been growing at an increasing rate and will probably continue for an indefinite period, spreading throughout all of the West Coast.

The present article deals with those interstate migrants who have reached the rural and semirural areas of Oregon in recent years. Whereas the early movement to Oregon, in 1932-33, was composed of many single persons from low-income groups, the movement since 1934 has been composed principally of entire families with funds sufficient for at least temporary support. The early migrants in many cases had written to friends and relatives in Midwestern States urging them to migrate to specific localities in Oregon, Washington, or California.

Very little attention was given the movement until the summer of 1934. At that time, various groups interested in the situation became alarmed at the constantly growing stream of drought refugees. Many farmers in Oregon and Washington have been hesitant to welcome these new families who, they believe, will add to existing problems of relief and unemployment, while in California farm owners have made large use of the labor furnished by the migrants. In each of the Pacific Coast States a small group has taken advantage of the newcomers' ignorance of local farming conditions and has recognized in the migrant group an available source of cheap labor. During the first few years of the movement the lack of definite knowledge concerning the migration added to the confusion of local groups and organizations attempting to deal with the problem to the benefit of both the migrants and the local communities. Considerable information has now been collected as to the general occupational characteristics of the migrants entering Oregon and their ability to maintain their own support as shown by relief records.²

Number of Migrants, 1930-36

Approximately 48,000 persons are believed to have migrated to rural Oregon during the 7 years, 1930-36 (table 1). This estimate is made on the assumption that the ratio between the number of children

¹ Abstract of article by Charles S. Hoffman, Farm Security Administration, in the Monthly Labor Review for January 1938.

² Field studies were undertaken by Oregon State Agricultural College in cooperation with the Division of Rural Research, Works Progress Administration. See Experiment Station Bulletin No. 157: Preliminary Information Concerning Immigration into Rural Districts in Oregon, by L. R. Breithaupt and C. S. Hoffman, Corvallis, Oregon State Agricultural College.

reported in the annual school census and the number of migrant families found in selected rural school districts was characteristic of all rural areas in the State.

TABLE 1.—*Estimated number of persons migrating into rural Oregon, 1930-36*¹

Area of settlement	Total	Year of arrival		
		1930-32 ²	1933-35	1936
All areas.....	48,200	7,500	18,700	22,000
Open country (0-49 population).....	29,000	5,250	11,200	12,550
Villages (50-2,499 population).....	17,500	2,100	6,400	9,000
Towns (2,500-4,999 population).....	1,700	150	1,100	450

¹ Estimate excludes migration into class 1 school districts.

² To compensate for the inability of the field staff in 1936 to obtain complete enumeration in the sample areas of all families migrating to Oregon in earlier years, the proportional estimate for 1930-32 was increased 15 percent.

The migration of the 6-year period, 1930-35, is estimated at 25,000, excluding persons who settled in towns of 2,500 or more. Interstate migration to the farming areas of Oregon is thus estimated at nearly double the net increase in the rural farm population during this period. Within the State, a strong farm-to-nonfarm and farm-to-urban movement existed during the period, which reduced the amount of net increase for the farm population. Many residents sold their farms to migrants and moved into villages and towns. It is estimated that rural nonfarm population increased 20,000 during the 6 years, approximately 13,500 being due to interstate migration and the remainder being a result of the natural increase and intrastate movement from rural farm to rural nonfarm, and from urban to rural nonfarm.

During the single year 1936, 22,000 persons are believed to have entered rural Oregon from other States. This is nearly half the total estimated migration of the 7-year period, 1930-36, and a greater number of persons than are believed to have entered in the immediately preceding 3-year period, 1930-32. The number of persons increased much more rapidly than the number of migrant families, as the average size of family rose from 3.2 persons in 1930-32 to 5.3 persons among those entering in 1936.

Sources and Routes of Migrants, 1930-35

As the volume of migration to Oregon increased, after 1930, the proportion of settlers from the Middle West increased and the proportion from the more adjacent Mountain and Pacific States declined. The proportion of these migrants from the Middle West increased from 22 percent of those entering Oregon in 1930-32 to 44 percent of those entering in 1933-35.

The decreased percentage of migrants from adjacent States may reflect a change in the mode of migration as well as a shift between areas of earlier residence. It seems probable that the earlier migration (1930-32) tended to be undertaken by stages, and that migrants who started from the Middle West would report a Mountain or

Pacific State as the last place of residence prior to settlement in Oregon. The decline in the proportion from adjacent States from 76 percent in 1930-32 to 56 percent in 1933-35 thus suggests that more of the later migrants proceeded directly from the Middle West to Oregon. Approximately a fifth of the migrants coming from California or Washington are believed to have left permanent residences in the Middle West since 1930.

Kansas, Colorado, and Nebraska contributed nearly a fifth of the migrant group. The States adjoining these sent smaller proportions. Prolonged drought, crop pests, dust storms, and other conditions stimulated the emigration. The expected return of normal rainfall did not materialize and, as funds decreased, the only choice was to remain and seek the charity of the Government, or move out. The determination of many of the migrants was characterized by slogans such as "Oregon or bust" painted on automobiles, trucks, and wagons.

The most-traveled route was along the Lincoln Highway, which extends through Iowa, Nebraska, Wyoming, Utah, Idaho, and Oregon. The location of this highway had an important effect upon the movement, as it tended to draw the migrant population from the central areas of the Middle West into Oregon rather than into California or Washington. This road crosses into Oregon over the Snake River and meets the Columbia River a few miles west of Pendleton, in the northeastern corner of the State. The road passes through rich, irrigated sections, then enters the rugged Columbia River Gorge, leading the migrant stream into Portland, at which point it scatters throughout the Willamette Valley counties and along the coast. The migrant stream from the most northern of the drought State heads into Washington, while the stream from the southern drought States pushes toward California, through Yuma and over the Truckee Pass.

Residence Areas Selected by Migrants

The movement toward rural villages continued at an increasing rate from 1930 to 1936. The total migration to open country areas was greater than to villages, but if the present trend continues, the migration to villages will undoubtedly be the larger within a few years. It is true that good farming land is not readily available. Many of the farm operators in the migrant group are unable to purchase the best-grade lands. In other cases, the migrant may be forced to live in a village while looking for a suitable farm to rent or purchase. This condition was present, for example, in Polk County, where in the fall of 1936 a dozen new families from the Midwest were living in a small community, unable to find farms nearby that could be rented.³ Some of these families were considering moving to Malheur County, in the eastern part of the State, where approximately 300,000 acres of newly irrigated land is relieving to a great extent the pressure in the Willamette Valley caused by the marked shortage of suitable and moderately priced farms wanted by migrants.

The arrival in a community of a group of families from another

³ Polk County is situated in the foothills east of the Coast Range, bordering the center of the Willamette Valley.

State is generally followed by an even greater number of migrants settling in the same locality. The later migrants are in many cases friends, relatives, or previous neighbors who came from other States following an exchange of letters. Thus, a newly settled migrant group has within it the seeds for a continued growth, increasing rapidly for an indefinite period. Because of this the migrant stream tends to flow from particular areas in other States, directly to definite localities in Oregon. For instance, more California migrants settled in Lane County, at the southern tip of the Willamette Valley, than in any other county. Most of the Washington migrants crossed the Columbia River and remained in Clatsop County, in the northwestern corner of Oregon. Migrants from the Mountain and also the North Central States settled primarily in the irrigated sections of Malheur County, on the eastern border. Columbia County was the choice of migrants from the South Central States. The phenomenon mentioned has become more evident during later years and undoubtedly accounts for much of the increased migration directed toward Oregon.

Usual Occupations of Heads of Households

The types of occupational groups as well as the total volume of migration from each region changed during the later period. During 1930-32 the proportion of migrants whose usual occupation was farming exceeded the nonfarm group. In the later period the nonfarm group was in excess, and this created a heavier stream of migration toward villages than would exist if the farm group was in the majority. The proportion of migrants engaged in farming in Oregon was less than the proportion of all migrants reporting farming as their usual occupation. This trend away from farming increased during the years studied.

The out-of-State farms operated by migrants were much larger than farms they operated in Oregon. There was also a decline in the size of farms operated in Oregon by migrants coming during 1933-35, as compared with the former period. Although many of these farms are too small to support the operators and their families, the settlement of submarginal farms is tending to decrease. A practice more common in 1935-36 was for the migrants to rent small farms preparatory to purchase of larger or otherwise more suitable farms after such places have been located and financial arrangements completed.

The large investments necessary for successful operation of stock, dairy, and wheat farms in Oregon discouraged the majority of migrants from the operation of these types. A number of migrants were entering specialized types of farming such as poultry ranches and fox farms in which relatively high returns on the investment can be made.

Among migrants reporting their usual occupation as nonfarm, skilled workmen were in the majority, with the semiskilled next. The prevalence of skilled workmen tends to decrease the proportion of the migrant group unable to find employment, for the skilled workman has far greater opportunities of reemployment than the unskilled laborer. In table 2, professional and business men were classified with the skilled group. Doctors, dentists, and lawyers had come to Oregon seeking locations to open a practice. They favored the rural

villages, in or near which many of the new families were located. In this manner their services were being transferred to new regions and distributed according to the needs of the expanding rural population.

TABLE 2.—Percentage distribution of usual occupation of heads of households migrating into Oregon, 1930-35

Period of arrival	Total		Percent whose usual occupation was in—									
			Farm work					Nonfarm work				
	Number	Per- cent	Total	Owner or man- ager	Ten- ant	La- borer	Not known	Total	Profes- sional and skilled	Semi- skilled	Un- skilled	Not known
Both periods.....	498	100	47	9	8	4	27	53	22	16	12	3
1933-35.....	360	100	44	10	9	4	22	56	21	19	13	3
1930-32.....	138	100	53	6	5	4	38	47	25	7	10	5

Migrants on Relief

The changing proportion of migrants who received relief after entering Oregon during 1930-35 substantiates the increase in direct migrations previously mentioned. Migrants from the Middle West did not require relief in Oregon to the extent that was true of migrants from the Mountain States. Because of this, the rate of relief in Oregon of migrants reported from the Mountain States was lower than the rate would have been without the inclusion of mid-western families. In the migration from Mountain States, the rate of relief among migrants coming during 1930-32 was lower than for any State or region classified. During 1933-35, with the mid-western families moving directly to Oregon, the rate of relief in Oregon of migrants from the Mountain States increased. The rate of relief among migrants reported from the Middle West remained fairly constant throughout.

The rate of relief in Oregon of the entire migrant group dropped from 31 percent for the group entering in 1930-32, to 11 percent for the group entering in 1933-35. Part of this decrease was due to residence qualifications which in later years made it more difficult for newly arrived families to obtain relief. Assistance was limited to transient relief unless legal residence in Oregon could be proved. This form of relief has in all counties been greatly curtailed or eliminated entirely. Even with the restrictions reducing the relief rate, fewer of the migrants coming in later years were found to require relief.

None of the migrants entering Oregon in 1930-32 were reported as having received relief in other States. In that period none of the present Federal relief programs were in operation, and public relief was limited to local organizations. Of the migrants entering Oregon in 1933-35, 16 percent were reported as having received relief in other States. The increased rate of relief received in other States for the later migrants does not necessarily represent a general increase in the migration of relief clients but rather is evidence of the acceptance of relief assistance that did not exist prior to 1933. Pres-

ent trends indicate a decrease during later years of the proportion of migrants entering Oregon who are in need of relief assistance.



Seasonal Agricultural Labor in the Yakima Valley ¹

The fertile, irrigated area of the Yakima Valley lying in the south central section of the State of Washington is famous for its apples, but it also produces large quantities of other fruits, hops, and general farm crops. The intensive agriculture of the valley requires such a large supply of labor at certain seasons that in addition to the local supply, thousands of transients² enter the valley to work in the harvest of fruits and hops. It is estimated that some 500 to 1,000 full-time transient workers are needed during the harvest of cherries in June, 25,000 to 30,000 during the hop harvest of September, and 5,000 to 6,000 during the apple harvest in October. Because of time lost in transferring from one short job to another, few workers are employed full time, and a surplus above these numbers is actually required if the crops are to be harvested without loss due to delays. During seasons of low demand for labor many of the residents are unemployed. In winter months only 500 to 1,000 agricultural workers are needed in the entire valley, yet in October of 1935 some 5,000 to 6,000 residents were employed in the apple harvest, indicating that there is a potential farm-labor group of 5,000 to 6,000 that must either be employed at nonagricultural tasks during the winter or be without employment.

Analysis of the employment and income experience of the workers indicates that unemployment is a common experience of both the resident and transient worker and that most of the jobs on which they are engaged are very brief in duration. Farm workers reported very low earnings for the various jobs they had throughout the course of 1 year preceding the interview. Yearly cash earnings of about one-fourth of the workers were \$100 or less, almost half earned under \$200, and one-fourth earned over \$400. Earnings of those on relief were only about half as great as earnings of those not on relief. The combined cash earnings of family groups averaged \$342; those of the families on relief, \$269; and those of the families not on relief, \$466.

The valley is an area of comparatively small farms. Over 29 percent of the 341 farms studied contained 10 acres or less. Over 26 percent had 10 to 20 acres. The other 45 percent had larger acreages, but only about 9 percent had more than 60 acres, and none exceeded 200 acres. Apples covered more land area than did any other fruit crop, and alfalfa covered a larger acreage than did any other general crop.

Fruit crops create most of the seasonal demand for labor. It is conservative to assume that at least 50 percent, and it may be as much as 65 percent, of all the work on fruit crops is done by transients. The highest percentage of work by transients was performed on apricots and cherries and the next highest on apples. The smallest relative

¹ Abstract of article by Paul H. Landis, State College of Washington, in the *Monthly Labor Review* for August 1937.

² A "resident" is considered to be one who had lived continuously in Yakima County for a period of 1 or more years. Others are considered "transients."

amount was performed on grapes. General crops present quite a different picture because they employ relatively few transients. A summary of the data shows that of 9,883 days' labor on general crops 74.8 percent was by residents, 17.2 percent by transients, and 8.0 percent was unclassified.

Forty of the leading hop growers in the valley were interviewed after the 1935 harvest and information was obtained on the number of days' labor hired each week during the harvest. The results show that work on the hop harvest fell in the month of September and that, despite the large amount of labor required to pick hops, over 98 percent of the total harvest took place within 3 weeks. In the week from September 1 to September 7, 38 percent of the work was done, during the next week 40.6 percent, during the third week 19.8 percent, and during the fourth week the remaining 1.6 percent. The short season for picking hops and the large amount of hand labor required result in a large weekly demand for labor. These factors make hops probably the most important crop in the Yakima Valley from the standpoint of seasonal labor. It is, in addition, probably the most important crop from the standpoint of transient labor, because a large proportion of the hop picking is done by transients.

An estimate of the total amount of hired labor required for all farm work in the Yakima Valley during each season of the year is shown in the following table. The results indicate that during the second week in September, when the hop harvest is at its height, approximately 33,000 hired agricultural workers on a full-time basis are required to meet the needs of the farm operators. During the months of December and January approximately 500 workers are sufficient to meet the demand. In other words, during the peak season 66 times as much hired labor is needed as at the low point. This extreme variation in demand is at the base of most of the problems which characterize the farm laborer's occupation in the Yakima area.

Estimated¹ number of hired workers needed for all crops in irrigated section of Yakima County, by weeks

Month and week	Full-time workers needed	Month and week	Full-time workers needed	Month and week	Full-time workers needed
August:		December:		April:	
First week	3,515	First week	503	First week	2,538
Second week	4,060	Second week	445	Second week	3,047
Third week	4,663	Third week	452	Third week	2,864
Fourth week	5,119	Fourth week	459	Fourth week	2,343
Fifth week	4,686	January:		Fifth week	2,608
September:		First week	462	May:	
First week	30,865	Second week	555	First week	3,964
Second week	32,737	Third week	471	Second week	5,255
Third week	17,753	Fourth week	514	Third week	5,209
Fourth week	5,867	Fifth week	477	Fourth week	4,134
October:		February:		June:	
First week	7,888	First week	676	First week	4,619
Second week	10,210	Second week	537	Second week	6,436
Third week	11,076	Third week	701	Third week	5,935
Fourth week	9,743	Fourth week	848	Fourth week	5,925
Fifth week	3,207	March:		July:	
November:		First week	1,290	First week	5,501
First week	1,129	Second week	1,508	Second week	4,626
Second week	815	Third week	1,486	Third week	2,874
Third week	618	Fourth week	1,429	Fourth week	2,022
Fourth week	555				

¹ These estimates are based on the assumption that each worker will be employed a full 60 hours a week (6 days at 10 hours per day).

The number of jobs of short duration on both fruit and general crops greatly exceeds those of longer duration. The greatest number of jobs on fruit farms last only 3 to 6 days, the next greatest number from 1 to 3 days, and a considerable number only 1 day. The greatest number of jobs on general crops last only 1 to 3 days.

A large proportion of jobs on general crops last only 1 day. The wheat and the oat harvests account for many of the 1-day jobs on general farms, for acreages are small and usually grain can be shocked in 1 day. Haying accounts for a large number of the 1- to 3-day jobs on the general farm crops. As to the jobs on fruit crops, it is probable that fruit picking accounts for a large proportion of those of less than 3 weeks' duration.

The percentage distribution of jobs by duration presents a more striking summary picture. Over 70 percent of the total number of jobs on the farms studied lasted only 1 week or less, and 27.2 percent from 1 to 6 weeks. Only 1.3 percent of the jobs covered a period of 6 to 12 weeks, and only 1.2 percent covered a period of 12 or more weeks.

Several differences appear when the lengths of employment on fruit farms and on general farms are compared. On fruit farms 67.2 percent, and on general farms 81 percent, of the jobs were 1 week or less in duration. Over 30 percent of jobs on fruit farms and 15.6 percent on general farms lasted from 1 to 6 weeks. The other outstanding difference was that 1.0 percent of jobs on fruit farms were over 12 weeks in length as compared to 2.2 percent on general farms.

Negro in Industry

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Special Problems of the Negro Worker

From the information available it appears that during the depression of the 1930's Negro workers, as a rule, suffered more severely than white workers from unemployment and its attendant evils. This was due, in part, to the fact that normally a larger proportion of Negroes than whites are in the lower-income groups and, in part, to the increased competition for certain of the low-paid, unskilled employments which in more prosperous days were not sought for by white workers. On the other hand, there developed during this period an increasing interest in the economic welfare of the Negro in the United States. Numerous studies of particular problems were undertaken and various constructive programs and projects were initiated. The creation of a Division of Negro Affairs in the National Youth Administration, the appointment of Negro professional men and women on the staffs of various other emergency administrations and services, all reflect a changing and it is believed a more intelligent attitude toward the Negro's economic problems. The work done by Negroes on CCC and WPA projects are also significant. Reviews of some of the more important of these studies, programs, and developments are given below.



Earnings of Negro Workers in the Iron and Steel Industry ¹

Negro workers, as a group, were earning substantially less per hour than white workers in the iron and steel industry in April 1938, the respective average hourly earnings being 68.7 and 85.7 cents.² However, where Negroes were doing the same kind of work as white workers they were found to be receiving the same rate of pay.³ The above difference in average hourly earnings, therefore, is a reflection of the limited occupational opportunities for Negroes in the industry.

Distribution of Negroes Within the Industry

Although Negroes have long been employed in the iron and steel industry, their numerical strength did not increase to any great extent until the World War. In 1930 the census of population showed that

¹ Abstract of an article prepared by Victor Baril and Abner C. Lakenen, of the Bureau of Labor Statistics, in the Monthly Labor Review for November 1940.

² Articles on earnings and hours in the iron and steel industry appeared in the August, September, and October 1940 issues of the Monthly Labor Review. Data therefrom are given on p. 179, vol. II of this Handbook.

³ This analysis is of necessity limited to male workers, as the Negro coverage of the study did not include any females.

one of every eight workers (12.8 percent) in the iron and steel industry was a Negro.⁴ A slightly lower ratio is indicated in both the 1935 and the 1938 wage surveys of the industry made by the Bureau, Negroes accounting for 10 percent of the total labor force in the former year and 9.6 percent in the latter year. The small decline between 1935 and 1938 was due to a decrease in the relative number of Negroes in rolling mills (from 9.8 to 8.8 percent), where over 70 percent of the Negroes in the industry were found. During the same interval the percentage of Negroes in blast furnaces increased from 15.6 to 20.8, while in steel works there was a slight advance from 8.6 to 8.7 percent.

The relative number of Negroes varied widely between regions, as may be seen from table 1. The highest ratio of Negro workers was found in the South, where they constituted 44.7 percent of all male workers reported. In the North they represented 7.9 percent of all male workers, and in the West only 2 percent.

Of the three branches of the industry, blast furnaces had the highest relative number of Negro workers (20.8 percent of all male workers), which may be compared to 8.7 percent in steel works and 8.8 percent in rolling mills.

TABLE 1.—*Distribution of male workers in iron and steel industry, by branch, region, and race, April 1938*

Branch of industry and region	All workers			Percentage distribution		
	Total	Whites ¹	Negroes	Total	Whites ¹	Negroes
All branches.....	80,711	72,909	7,802	100.0	90.3	9.7
North.....	73,819	67,972	5,847	100.0	92.1	7.9
West.....	2,632	2,580	52	100.0	98.0	2.0
South.....	4,260	2,357	1,903	100.0	55.3	44.7
Blast furnaces.....	5,996	4,747	1,249	100.0	79.2	20.8
Steel works.....	11,457	10,464	993	100.0	91.3	8.7
Rolling mills.....	63,258	57,698	5,560	100.0	91.2	8.8
North.....	58,720	54,486	4,234	100.0	92.8	7.2
West.....	1,599	1,588	11	100.0	99.3	.7
South.....	2,939	1,624	1,315	100.0	55.3	44.7

¹ Includes 944 Mexicans.

Comparison of Average Hourly Earnings of Whites and of Negroes

Male workers earned an average of 84.1 cents an hour in April 1938. The earnings of male whites amounted to 85.7 cents, while those of male Negroes were 68.7 cents (table 2). Thus, as a group, Negroes in the iron and steel industry had substantially lower average hourly earnings than whites, the actual difference amounting to 17 cents.

⁴ Of the 377,556 workers in the industry in 1930, 48,867 were Negroes.

TABLE 2.—Average hourly earnings of male workers in iron and steel industry, April 1938, by branch, region, and race

Branch of industry and region	All workers		Whites		Negroes	
	Number	Average hourly earnings	Number	Average hourly earnings	Number	Average hourly earnings
All branches.....	80,711	\$0.841	72,909	\$0.857	7,802	\$0.687
North.....	73,819	.849	67,972	.858	5,847	.739
West.....	2,632	.923	2,580	.926	52	.768
South.....	4,260	.660	2,357	.749	1,903	.536
Blast furnaces.....	5,996	.736	4,747	.777	1,249	.585
North.....	4,746	.772	4,064	.790	682	.657
West.....	214	(1)	178	(1)	36	(1)
South.....	1,036	(1)	505	(1)	531	(1)
Steel works.....	11,457	.873	10,464	.892	993	.685
North.....	10,353	.873	9,422	.891	931	.699
West.....	819	(1)	814	(1)	5	(1)
South.....	285	(1)	228	(1)	57	(1)
Rolling mills.....	63,258	.846	57,698	.858	5,560	.715
North.....	58,720	.852	54,486	.858	4,234	.762
West.....	1,599	.949	1,588	.949	11	(1)
South.....	2,939	.679	1,624	.760	1,315	.558

¹ Averages not presented either on account of small number of workers or to keep from revealing plant identity.

In each of the three branches of the industry whites earned substantially more per hour than did Negroes. The smallest difference in favor of whites (14.3 cents) was found in rolling mills, where they averaged 85.8 cents an hour as compared with 71.5 cents for Negroes. In each of the three regions, white workers also enjoyed a very substantial difference in earnings over Negroes. In the North, this amounted to 11.9 cents, the respective average hourly earnings being 85.8 cents and 73.9 cents.

A very careful examination of the reports for plants employing both whites and Negroes revealed that whenever whites and Negroes were found in the same occupations in any given plant, both were receiving the same basic rates. For instance, white and Negro workers received the same hourly rate of pay as blast-furnace keepers in plant A (81.5 cents), as stockers in plant B (63.0 cents), and as bottom makers in plant C (68.3 cents). Similarly, with respect to common laborers, white and colored workers received the same hourly rate in plant X (62.5 cents), in plant Y (59.5 cents), and in plant Z (56.5 cents).

The explanation of the lower earnings of Negroes in the iron and steel industry lies in their limited occupational opportunities. This may be seen from the distribution of white and colored workers, as shown in table 3.

TABLE 3.—*Distribution of male workers in iron and steel industry, by region, branch of industry, skill, and race, April 1938*

Region, branch, and skill	All workers		Whites ¹			Negroes		
	Number	Percent	Number	Percent	Percent of total workers in group	Number	Percent	Percent of total workers in group
<i>North</i>								
All branches.....	73,819	100.0	67,972	100.0	92.1	5,847	100.0	7.9
Skilled.....	25,007	33.9	24,292	35.7	97.1	715	12.2	2.9
Semiskilled.....	29,841	40.4	27,611	40.6	92.5	2,230	38.1	7.5
Unskilled.....	18,971	25.7	16,069	23.6	84.7	2,902	49.7	15.3
Blast furnaces.....	4,746	100.0	4,064	100.0	85.6	682	100.0	14.4
Skilled.....	1,715	36.1	1,633	40.1	95.2	82	12.0	4.8
Semiskilled.....	1,859	39.2	1,559	38.4	83.9	300	44.0	16.1
Unskilled.....	1,172	24.7	872	21.5	74.4	300	44.0	25.6
Steel works.....	10,353	100.0	9,422	100.0	91.0	931	100.0	9.0
Skilled.....	4,232	40.9	4,117	43.7	97.3	115	12.4	2.7
Semiskilled.....	3,013	29.1	2,730	29.0	90.6	283	30.4	9.4
Unskilled.....	3,108	30.0	2,575	27.3	82.9	533	57.2	17.1
Rolling mills.....	58,720	100.0	54,486	100.0	92.8	4,234	100.0	7.2
Skilled.....	19,060	32.5	18,542	34.0	97.3	518	12.2	2.7
Semiskilled.....	24,969	42.5	23,322	42.8	93.4	1,647	38.9	6.6
Unskilled.....	14,691	25.0	12,622	23.2	85.9	2,069	48.9	14.1
<i>West</i>								
All branches.....	2,632	100.0	2,580	100.0	98.0	52	100.0	2.0
Skilled.....	1,008	38.3	993	38.5	98.5	15	28.8	1.5
Semiskilled.....	986	37.5	953	37.3	97.7	23	44.3	2.3
Unskilled.....	638	24.2	624	24.2	97.8	14	26.9	2.2
<i>South</i>								
All branches ²	4,260	100.0	2,357	100.0	55.3	1,903	100.0	44.7
Skilled.....	1,305	30.6	1,060	45.0	81.2	245	12.9	18.8
Semiskilled.....	1,767	41.5	1,035	43.9	58.6	732	38.5	41.4
Unskilled.....	1,188	27.9	262	11.1	22.1	926	48.6	77.9
Rolling mills.....	2,939	100.0	1,624	100.0	55.3	1,315	100.0	44.7
Skilled.....	926	31.5	729	44.9	78.7	197	15.0	21.3
Semiskilled.....	1,213	41.3	724	44.6	59.7	489	37.2	40.3
Unskilled.....	800	27.2	171	10.5	21.4	629	47.8	78.6

¹ Includes 944 Mexicans.² Includes data for blast furnaces and steel works, separate figures for which would have revealed plant density.

¹ The skill make-up of the Negro group for the industry as a whole was practically the same in both the North and the South, one-eighth of the Negroes being skilled, roughly two-fifths semiskilled, and approximately one-half unskilled. Comparison of these ratios with the corresponding ratios for whites reveals the much less favorable position of colored workers. In the North, for instance, less than one-fourth of the whites (23.6 percent) were unskilled, but more than one-third (35.7 percent) were skilled. In the South as high as 45.0 percent of the whites were skilled and only 11.1 percent were unskilled. In the semiskilled group, the relative number of whites and Negroes was approximately 40 percent in both the North and South.

Occupational Distribution of Negroes ¹

Of every 1,000 gainfully occupied Negroes 10 years of age and over in the United States in 1930, 25 were reported in professional service

¹ From the Monthly Labor Review for April 1936.

as compared with 79 per 1,000 native white gainful workers in such service and 44 per 1,000 of the foreign-born white gainful workers. In clerical occupations, however, the findings were much less encouraging for the Negroes, only 7 per 1,000 of the gainful workers of that race being included under this classification, while the corresponding figures for the native white and foreign-born white gainful workers were, respectively, 104 and 41.

Other contrasts for these three groups of the population are given in table 1 from Negroes in the United States, 1930-1932, published by the United States Bureau of the Census.

TABLE 1.—Gainful workers 10 years old and over, in the United States, per 1,000 population, 1930, by industry, color, and nativity

Industry	Distribution per 1,000 gainfully occupied		
	Negro	Native white	Foreign-born white
All industries.....	1,000	1,000	1,000
Agriculture.....	361	214	91
Domestic and personal service.....	287	66	127
Manufacturing and mechanical industries.....	186	275	441
Transportation, etc.....	72	82	66
Trade.....	33	137	137
Professional service.....	25	79	44
Extraction of minerals.....	14	19	31
Public service (not elsewhere classified).....	9	19	16
Clerical occupations.....	7	104	41
Forestry and fishing.....	6	5	6

According to table 2, from the same report of the Bureau of the Census, the proportion of Negro gainful workers 10 years of age and over in the United States, in specified occupations in which Negroes predominated, in 1930 ranged from 50.1 percent of the midwives and 50.6 percent of the bootblacks to 84.1 percent of the laborers in fertilizer factories.

Of 361,033 launderers and laundresses (not in laundries) 75.1 percent were Negroes, and of 321,722 cooks other than in hotels, restaurants, and boarding houses, 68.5 percent were Negroes.

TABLE 2.—Distribution of gainful workers 10 years of age and over in occupations in which Negro workers predominated in the United States, 1930

Occupation	Total, all classes	Negroes			
		Total	Males	Females	Percent of all classes
Bootblacks.....	18,784	9,499	9,481	18	50.6
Cooks, other than in hotels, restaurants, and boarding houses.....	321,722	220,538	17,478	203,060	68.5
Laborers, cigar and tobacco factories.....	20,581	12,254	8,863	3,391	59.5
Laborers, fertilizer factories.....	18,243	15,347	15,268	79	84.1
Laborers, turpentine farms and distilleries.....	37,620	30,849	30,577	272	82.0
Launderers and laundresses (not in laundry).....	361,033	271,083	1,985	269,098	75.1
Midwives.....	3,566	1,787	1,787		50.1
Operatives, fertilizer factories.....	1,538	1,039	1,000	39	67.6
Operatives, turpentine farms and distilleries.....	1,368	726	721	5	53.1
Porters, except in stores.....	127,488	93,744	93,714	30	73.5

Earnings of White-Collar and Skilled Urban Negroes, 1936 ¹

Of 213,983 urban Negro workers in the white-collar and skilled classes in 85 cities in various sections of the United States in 1936, 22 percent earned on an average less than \$5 per week, 63.2 percent under \$25, and 1.4 percent \$50 or more. Less than \$5 per week was earned by 15.9 percent of the males and 33.8 percent of the females, and less than \$25 per week by 58.9 percent of the males and 71.6 percent of the females. These data were developed in a survey carried on by the office of the Adviser on Negro Affairs in the United States Department of the Interior,² a summary of the findings of which are presented in the following table.

Percentage distribution of white-collar and skilled urban Negro workers, by average weekly earnings during 1936, sex, and occupational class

Average weekly earnings during 1936	Both sexes			Males			Females		
	Total	White-collar	Skilled	Total	White-collar	Skilled	Total	White-collar	Skilled
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
United States.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5.....	22.0	20.3	23.9	15.9	12.3	18.8	33.8	30.3	41.6
\$5 to \$9.....	7.6	7.3	8.0	5.9	5.8	6.2	11.0	9.5	14.4
\$10 to \$14.....	12.7	11.1	14.4	13.2	10.1	15.6	11.7	12.4	10.0
\$15 to \$19.....	13.1	11.6	14.8	14.7	11.7	17.0	10.0	11.4	6.9
\$20 to \$24.....	7.8	7.5	8.1	9.2	8.5	9.7	5.1	6.3	2.5
\$25 to \$29.....	5.1	5.0	5.2	6.3	6.2	6.4	2.8	3.6	1.5
\$30 to \$34.....	3.2	2.8	3.7	4.1	3.5	4.7	1.6	2.0	.1
\$35 to \$39.....	2.1	2.3	2.0	2.7	3.0	2.5	1.0	1.3	.1
\$40 to \$44.....	2.3	3.6	1.0	3.2	5.7	1.2	.6	.9	.1
\$45 to \$49.....	.8	1.0	.4	1.0	1.6	.6	.3	.5	.1
\$50 to \$74.....	1.0	1.4	.5	1.2	1.9	.6	.6	.8	.2
\$75 to \$99.....	.3	.4	.2	.3	.5	.2	.2	.2	.2
\$100 and over.....	.1	.2	(0)	.1	(0)	(0)	(0)	(0)	(0)
Own account and commission	10.8	12.8	8.5	10.3	15.1	6.4	11.7	9.9	15.8
Not given.....	11.1	12.7	9.3	11.9	14.2	10.1	9.6	10.9	6.6

¹ Less than $\frac{1}{10}$ of 1 percent.



Negro-Training Facilities for Higher-Grade Jobs ³

Negro institutions offering college work numbered less than a dozen in 1916, and not over one-tenth of those enrolled were collegiate students. In 1936 the United States Office of Education received reports from 121 Negro institutions for higher learning, about 60 of which had accreditation from State education departments, regional accrediting bodies, or both.⁴ Of these 121 institutions, 69 were 4-year colleges (18 publicly controlled and 51 privately controlled), 17 were teacher-training institutions, and 35 were junior colleges.

In 1936 there were 35,000 students enrolled in these institutions, 65 of which conferred 3,457 collegiate, graduate, and professional degrees. The number of conferred degrees was more than double the number of Negroes (1,643) pursuing college courses in 1916.

¹ From the Monthly Labor Review for September 1938.

² Issued under the title "The Urban Negro Worker in the United States, 1925-36."

³ From the Monthly Labor Review for September 1939.

⁴ United States. Office of Education. Miscellaneous Bulletin, 1939, No. 3: Education in the United States of America. Washington, 1939.

In the two decades 1916-36 the number of collegiate students enrolled in publicly supported land-grant colleges for Negroes increased from 12 to 11,097.

An enrollment of 23,878 was reported by 63 colleges in their 1936 summer sessions.

In 1936 the property and equipment of Negro colleges were appraised at about 65 million dollars and the annual receipts totaled almost 14 million dollars, as compared to a property valuation of approximately 36 million and annual receipts of 4 million dollars in 1916. In the earlier year the colored institutions for higher education probably had fewer than 75,000 books in their libraries. Two decades later a million bound volumes were reported by 90 institutions.



Aid to Negroes Under FSA Rehabilitation Program ¹

Approximately 50,000 Negro families were covered in a survey, made in 1939, of 116,000 typical southern rehabilitation families aided by the rehabilitation program of the Farm Security Administration, Henry A. Wallace, Secretary of Agriculture, reported in an address on September 2, 1940, at the American Negro Exposition at Chicago.² "These families had increased their average net worth from \$451 per family to \$752 per family. This was an average net increase of \$300 per family or 66 percent, and a total net gain of \$35,000,000. This \$35,000,000 meant a lot to the communities in which these families lived, to the families themselves, and to the country as a whole."

Through the tenant purchase program, he said, more than 1,000 Negro families had become owners of land. Under this program, developed under the Bankhead-Jones Act, sufficient money is loaned to a restricted number of farm tenants to enable them to purchase and improve farms of their own.

Other families have been transferred from worn-out hill land and other submarginal regions to so-called "homestead" projects purchased by the Government. Over 1,800 Negro families are living on 31 such farms. These families have been provided with land and with houses and aided in planning the operation of their farms.

These farm programs were overwhelmingly endorsed by Negro farmers. This was due, Mr. Wallace stated, to the fact that these programs "have drawn Negroes more into the current of life in their areas. For the first time, many Negroes feel that they have a definite part in a movement for the betterment of all farmers. It had led many Negroes to understand the reasons for their situation, and once the reasons for a situation are understood, plans can be made to do something about it. A man lost in a cave is no longer lost after he sees a glimmer of light."

In the referenda concerning marketing quotas for cotton, the counties having a heavy proportion of Negro farmers also showed a heavy proportion in favor of the FSA rehabilitation program, while the number of those who voted indicated that the majority of colored farmers in the counties went to the polls.

¹ From the Monthly Labor Review for February 1941.

² U. S. Department of Agriculture. Press release, Washington, September 2, 1940: Toward National Unity.

Wages and Hours of White and Negro Workers in Georgia, 1938 ¹

Weekly wages of white males in inspected establishments in Georgia in 1938, listed in the following table,² ranged from \$15 in canneries to \$37.50 in film companies, while the wage range for white females was from \$8.70 in restaurants and cafes to \$27.50 in film companies. The weekly wages of colored males were as low as \$4.85 in foundries and as high as \$18 in film companies. The range for colored females was from \$6 in creameries and dairies to \$13.20 in a sugar refinery.

This tabulation shows the wide differences between the wages of white and colored workers, but consideration should be given to the fact that in many cases occupational status may account for these seeming wage discriminations.

Wages and hours of white and Negro workers in specified kinds of establishments in Georgia, 1938

Class of establishment	Number of employees	Week-ly hours	Whites				Negroes			
			Females		Males		Females		Males	
			Number	Week-ly wages	Number	Week-ly wages	Number	Week-ly wages	Number	Week-ly wages
Auto and garage.....	2,742	46	122	\$21.31	2,184	\$23.90			436	\$13.52
Bakeries.....	1,849	41	671	12.49	1,002	20.54	63	\$7.00	113	11.85
Beauty shops.....	536	(1)	415	23.10	88	27.90	25	10.00	8	9.00
Bottling and soft-drink manuf- acturers.....	736	44	39	15.78	480	26.91			217	12.14
Canneries.....	397	44	250	10.00	121	15.00	13	9.00	13	12.00
Cotton-oil companies.....	989	44	147	12.50	453	19.13	11	8.50	378	12.15
Creameries and dairies.....	54	56	1	20.00	45	20.34	1	6.00	7	10.50
Feed mills.....	154	48			68	15.40			86	11.00
Fertilizer plants.....	548	43	46	17.58	140	18.25			362	14.67
Filling stations.....	632	63	7	16.00	357	23.50			268	9.00
Foundries.....	1,534	43	2	18.00	1,207	30.15			325	4.85
Film companies.....	285	40	151	27.50	114	37.50			20	18.00
Food and produce.....	318	52	136	14.36	144	19.40			38	10.00
Furniture companies.....	467	47	48	20.00	300	23.50	6	9.00	113	12.16
Garment manufacturers.....	12,991	44	8,804	14.00	3,493	16.50	364	9.00	330	10.25
Ice-cream and ice manufac- turers.....	140	48	4	12.00	87	30.00			49	12.00
Insurance companies.....	1,385	40	685	20.00	717	36.50			10	11.25
Dry cleaners and laundries.....	4,262	46	1,026	11.78	801	22.72	1,792	8.46	463	11.74
Lumber.....	100	48	4	20.00	45	22.50			51	12.50
Marble quarries.....	36	40			19	16.00			17	8.00
Miscellaneous.....	6,164	44	1,478	15.18	3,871	20.02	138	6.50	677	12.16
Oil (gas) companies.....	301	42	145	22.50	108	26.50			48	13.93
Packing plants.....	1,902	45	400	16.75	1,064	34.00	40	11.00	398	18.00
Paper and printing plants.....	3,181	40	787	21.06	2,267	33.50			137	14.68
Restaurants and cafes.....	901	54	325	8.70	222	12.50	96	6.00	258	7.50
Sugar refineries.....	425	40			210	24.00	53	13.20	162	13.20
Stores:										
Department.....	7,019	48	3,918	15.76	2,776	22.65	84	8.78	241	9.86
Drug.....	1,235	56	467	14.96	498	23.50			270	8.00
5- and 10-cent.....	1,304	48	1,063	13.52	150	21.50	40	7.26	51	9.33
Stove manufacturers.....	137	38			102	30.94			35	16.50
Textile mills.....	43,659	40	18,171	14.90	23,121	17.56	482	8.42	1,885	11.58
Truck companies.....	255	45	15	20.00	225	26.50			15	13.00

¹ Hours vary.

² From the Monthly Labor Review for June 1939.

³ Georgia Department of Labor. Second Annual Report. Atlanta, 1938.

Employment Problems of Negroes in Michigan ¹

A series of conferences, in 20 States in which Negro workers are concentrated, has been promoted by the Federal Social Security Board through the United States Employment Service Division. At the Michigan State Conference, attended by various employers, labor representatives, and other interested persons, which took place in Detroit in October 1940, the situation of Negro workers in the State at that time in relation to their opportunities for employment was the subject of discussion.²

Findings of Committee

A summary of the report of the conference findings committee is given below:

Negro population in Michigan.—In 1930 the Negro population of Michigan numbered 170,000, or 3.5 percent of the State's total population at that date. According to the United States Census Bureau estimate, the Negro population of the State in 1940 was 210,000.

The Negroes in Michigan live mainly in certain urban and industrial centers, and 99 percent of them reside in the southern half of the lower Peninsula. Negro social and economic problems are consequently city problems but they have State-wide effects.

Negro wage earners.—Based on the best available data at the time the report was prepared, there were some 100,000 Negro wage earners in the State—about 75,000 men and about 25,000 women.

Occupations of Negroes.—The occupational distribution of Negro workers follows a pattern different from that of white workers. The 1930 census shows a heavy concentration of Negroes in the unskilled, semiskilled, and domestic and personal-service occupations. The active file of the State Employment Service of Michigan shows that 85 percent of the Negro applicants, as against a little over 50 percent of the white applicants, are registered in these occupational groups.

The representation of employed Negroes in Michigan in semiskilled, unskilled, and domestic and personal-service groups was probably not so great in 1940 as it was in 1930. This occupational shift is particularly noted in traditional "Negro jobs," and this is especially the case in some of the unskilled domestic and personal-service occupations. In these fields many colored workers have been displaced by increasing mechanization in both industry and the home and also because of the competition of white workers.

Discrimination by some employers against Negroes seems to be explained in part by a misunderstanding of their employment capabilities. Negroes are employed in practically all occupational capacities by one large automobile manufacturer in the State. The committee's report states that it "is needless to point out that the social and economic implications of discrimination in employment adversely affect not only the Negro worker and his family but the well-being of the State as a whole."

¹ From the Monthly Labor Review for February 1941.

² Michigan State Conference on Employment Problems of the Negro, Detroit, October 8, 1940. Findings, report, recommendations. Detroit, Michigan State Employment Service, 1940.

Unemployment.—According to the findings of the conference committee, unemployment is proportionately heavier among colored than among white persons.

Every major census and survey since 1930 indicates that more unemployment exists among Negro workers than among white workers, and, also, that the duration of unemployment is longer among Negroes. The unemployment rate is greater even when such factors as sex, age, occupation, and illness are held constant.

The active file of persons seeking work through the public employment offices of Michigan indicates that 20 percent of all Negro applicants as compared to 7 percent of all white applicants have been unemployed for 4 years or more.

Vocational preparation.—Opportunities for vocational training are more restricted for Negro youth than for white young people. Discrimination against colored workers by trade-unions bars the possibility of including them in apprenticeship programs conducted cooperatively by groups of employers and unions. Furthermore, apprenticeship programs carried out wholly by employers are generally not available to young Negroes. The only exception in the State is that of the Ford Trade School.

Technical trade courses of the regular schools are not, except in a few outstanding cases, open to Negro youth, apparently on the theory that employers will not hire them even after they are trained.

Vocational counseling and guidance seemed to the committee to be inadequate in both extent and content.

Family disorganization and living conditions.—The insufficient and unstable income of the Negro family is the primary cause of many of its social problems.

It is well known that crime and delinquency are more common among Negroes than in other population groups. This is not an inherent racial factor. There is no question but that much delinquency and crime are bred in the conditions of poverty, overcrowding, and family disorganization, conditions that peculiarly beset the Negro. Likewise, according to the committee, it is certain that the cost to Michigan citizens of protecting themselves against crime and of treating criminals is greater than would be the cost of prevention.

Housing facilities of Negro families in the State are reported as inadequate and substandard. Their living conditions in the present restricted and highly colonized sections in which they live are far below the housing conditions of white families even in the same income group. A recent survey disclosed that 42 percent of the residential units in Detroit within the Boulevard and east of Woodward Avenue were generally substandard. "The situation in Detroit can be paralleled in every other Michigan community in which Negro families are grouped."

The greater incidence of illness among Negroes than among white persons, the committee holds, can be readily explained as directly due to their low income, unemployment, and substandard housing.

Recommendations of Committee

Among the various recommendations of the conference findings committee was the appointment by the Governor of Michigan of "a nonpartisan commission composed of Negro and white persons to examine the economic and social problems of the Negro workers in this State."

Restriction in Employment of Negroes in New York ¹

A serious and growing discrimination against the employment of Negroes in New York in any but manual and unskilled jobs, is recorded in the Second Report of the New York State Temporary Commission on the Condition of the Colored Urban Population to the Legislature of the State, February 1939. The commission found that financial and mercantile enterprises employing hundreds of thousands of white-collar workers throughout the State do not hire Negroes for such work.² With the exception of the garment and fur trades and related industries in the city of New York, the factories for the most part afford no openings for colored labor. A carpet factory in Yonkers, which at peak periods has 6,000 workers on its pay rolls, hires no Negroes and is reported as never having employed any in more than 50 years. If these workers are able to secure any foothold at all in the fields of engineering, laboratory work, or transportation, it is only after great effort. Insurance companies, banks, and public utilities have definite policies barring or restricting them from employment. The largest insurance company in the world, which writes more insurance among the colored people than all the Negro insurance companies combined, stated that no Negroes were employed in its force of 20,000-odd in New York State alone. The largest public utility in the State, which employs a greater number of persons than all of the departments of the State combined, reported "perhaps a dozen" colored persons among its employees.

Although the need for manpower in industrial production declined during the last 10 years, a shift of Negro labor into industrial occupations in marginal capacities took place. In brief, such laborers during these 10 years "have shown a tendency to shift into contracting fields of employment, with the ironic probability that by the time they have entrenched themselves they will be under pressure to move to more fruitful areas." The report under review emphasizes, however, that this has not been a voluntary movement but the inevitable result of the fact that expanding employment fields are usually closed to Negro workers. "It would seem, therefore, to be easily demonstrable that one great need of the Negro population is to be accepted into a wider area of the State's employment fields."

One of the largest department stores in New York City, although typical of retail houses in its employment policy, is, in fact, much more liberal than many other firms. This establishment, which has at different periods of the year between 10,000 and 19,000 on its staff, includes only 175 Negro men on its pay roll. All of these are elevator operators or cafeteria or kitchen workers.

Only about 65 colored persons were reported among the New York World's Fair administrative staff of 1,200 and construction crews of 700. Included in the 65 are receptionists, maids, attendants, night cleaners, 1 policeman, 1 draftsman, several mail-room workers, and 2 artists.

In up-State New York employment of Negroes in the large factories and wholesale and retail establishments is also practically nonexistent. In Rochester, for

¹ From the Monthly Labor Review for August 1939.

² In 1930 the Negro population of New York State was 412,814, or 3.3 percent of its total population. Population experts estimate the Negroes in the State in 1938 at nearly 500,000.

example, one survey showed that of 35,120 employees in private firms, only 70 were Negroes. The largest firm, manufacturer of photographic equipment and supplies, employing 16,351 persons, reported 1 Negro porter and 19 construction workers engaged by a subsidiary corporation. Another firm manufacturing optical goods reported 3,000 employees—no Negroes; two clothing manufacturers reported 4,000 employees and *not one Negro* because they “are supplied with workers by the union upon requisition.”

The commission's survey of Syracuse included 10,288 employees among whom were 15 Negro workers occupied as cleaners and laborers.

Only 4 colored workers among 28,932 employees were reported in large and small factories and mercantile establishments in the “Triple Cities” of Binghamton, Endicott, and Johnson City.

A cigar factory in Poughkeepsie was employing 12 semiskilled Negroes, but among the other 5,252 employees covered by the commission's survey in the same city only 7 colored workers in the unskilled groups were reported.

The commission “was at a loss to understand how Negroes in these and other communities in the up-State region managed to make a living and survive starvation. Certainly, where they have been unable through their own efforts to cope with this serious problem of no employment it is the duty of the State to lend assistance.”

Some very active campaigns, including threatened boycott, have been launched in colored neighborhoods with a view to securing jobs in local offices and stores. Occasionally these efforts have met with some little success. In general, however, the concessions have been temporary and have involved only a few new employment opportunities. According to the commission, the most effective of these campaigns was carried out in the Harlem area in New York City, where several hundred Negro clerks were estimated to have secured positions in 1934 and 1935. Several of the persons who originally sponsored this movement, however, now take the attitude that the results did not justify the community effort expended in this crusade.³

Negroes are not only blocked from entering many employment fields, but they frequently face the loss of jobs long held by laborers of their race. It has been reported that employers have in recent years deliberately dismissed them and given their jobs to white workers. In this group of employers “would seem to be one of the largest bus companies, a subsidiary of a major eastern railroad.” In 1937 this company had employed 97 Negroes as “bus-service stewards” to accompany busses on long trips, to handle baggage, and to perform other duties. In January 1938 all but 6 of these colored men were summarily discharged, although their superiors stated their work was satisfactory. The places of 86 of these dismissed stewards who had received \$35 per month were filled by creating positions for “baggage checkers” who were all white and who were selected from former drivers out of work at the close of the travel season. Twenty of the white baggage checkers are paid \$90 per month to load and unload baggage. For 2-hour periods they are relieved by Negro redcaps, who receive no remuneration for this extra labor.

³For an account of the Harlem Pact for employment of white-collar Negro workers, made public August 7, 1938, see *Monthly Labor Review* for September 1938 (pp. 552-558).

Economic Status of Negroes in New Jersey ¹

The report of the New Jersey Temporary Commission on the Condition of the Urban Colored Population, published in 1939, dealt with the major social problems affecting Negroes in New Jersey, who in 1930 numbered 208,828, or 5.2 percent of the population of the State. In 1931 the average annual income of Negro families in New Jersey was found to be \$1,052. The Commission's finding for 1938, based on questionnaires for 5,303 colored families in 14 municipalities, showed a drop to \$880. The same 1938 schedules showed that 30 percent of these families had annual incomes below \$600, 75 percent had incomes under \$1,200, and 2.5 percent had incomes over \$2,400.

As a result of its study the Commission recommended (1) that the State Civil Service Act be amended to provide against racial discrimination in appointments and promotions in the competitive class of the service and against the labor class on public jobs; (2) that insurance laws be amended to prohibit racial discrimination in the issuance of life insurance and of liability insurance for automobile accidents; (3) that provisions "be included in a State labor relations act so as to deny the protection of that act to any union refusing to admit workers to membership on account of race or religion"; and (4) that a study be made by the legislature "of regulations providing for a merit system to be instituted as part of the employment practices of public utilities."

The Commission also made recommendations to State and municipal housing officials that immediate steps be taken to provide at once for low-cost housing facilities for Negroes; to health officials for the increase of training opportunities for Negro public-health workers, nurses, and physicians to deal with Negro health problems; to the State department of public instruction, calling for an investigation of discrimination against Negro children in the public schools of New Jersey; and to public officials for the appointment of Negroes to local and State boards of health, education, housing, relief, etc., in order to have the advantage of the participation of colored persons in problems most closely concerning their welfare.

¹ From the Monthly Labor Review for September 1939.

Occupational Outlook

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Sources of Information on Occupational Outlook

Occupational outlook research represents an effort to forecast employment opportunities by industries, occupations, and regions. The basis for such forecasts is the analysis of labor-market trends and the conditions and factors underlying such trends; for example, the growth and decline of industries and changes in the materials, methods, and techniques of production.

This field of research has become increasingly important as the relation between working force and available jobs has shifted, the number of different kinds of jobs has multiplied, and the skills required have changed.

One indication of the growing importance of the field was the recommendation of the President's Advisory Committee on Education for the establishment of an occupational outlook service within the United States Department of Labor to "provide a clear description of each of the major occupations, or groups of minor occupations, the kind of life each occupation offers, the character of the preparation essential to it, the numbers employed and the trend of employment, the number of new employees taken on each year, and the number of youth in each year of college or secondary school who have the intention of entering the occupation if possible."¹ Following this recommendation there was established in 1940 in the Bureau of Labor Statistics an Occupational Outlook Service. The purposes and functions of the Service are described on page 611.

Only a small number of studies have ventured to forecast employment possibilities in specific occupations or industries, or for a specific portion of the population. Summaries of certain studies of this type made since 1934 are presented here. A large number of studies, while not making forecasts of employment opportunities, contribute data and analyses of considerable significance to occupational outlook research. Such studies have been carried on in the United States Department of Labor, both within and outside of the Bureau of Labor Statistics, in other Government agencies, and outside of the Government. Among groups which have carried on research in this field are local and State public education bodies, the United States Office of Education, the National Youth Administration, private nonprofit bodies such as the National Occupations Conference, and commercial organizations, such as Science Research Associates.

The analysis of labor supply has received a great deal of attention, perhaps because information concerning it is available from the United States Census of Population and from the numerous surveys and enumerations that were made between 1930 and 1940. Some of the studies of labor supply have been on a national basis; others have been on a community or a State basis. The most recent of the national studies covers occupational trends from 1870 to 1940 and

¹ United States. Advisory Committee on Education. Report. Washington, 1938. P. 104.

was made by Percy Davidson and H. Dewey Anderson of Stanford University. Based largely on data from the Population Census, it analyzes changes in the labor force from 1870 to 1930 and makes forecasts of the distribution of the labor force in 1940.²

Among studies of State and local labor supply, many have been made by educational institutions and agencies; for example, in New York, Wyoming, California, and Iowa. In the case of the Iowa studies, procedures are indicated for utilizing the data to determine the number of individuals who should be trained for specific occupations, based on the assumption that there will be no drastic change in past trends of occupational distribution.³ Sometimes, as in the case of Colorado, the labor supply has been analyzed as a basis for State planning.⁴ A number of studies of occupational distribution of Negro workers have been conducted.⁵

Various studies have contributed a considerable body of descriptive information concerning individual occupations and industries. In this field, too, public education bodies have published a number of studies. The University of the State of New York, for instance, has issued a number of monographs on industries and occupations. While some of these deal with industries and occupations particularly important in the State, all are written with New York conditions in mind, and are intended for use only in the State.⁶

Other studies describing specific lines of employment include those of the Institute of Women's Professional Relations, which makes studies of women's careers,⁷ and the National Occupations Conference. During its brief life (it was terminated in 1939) this agency issued a large number of occupational abstracts, some of which are still useful as a bibliographical source.

A most extensive program of occupational and industrial studies has been carried on by the National Youth Administration. Studies made by the various State administrations usually touch on the history of an industry or an occupation, its importance in specific localities, a description of the processes involved, and the qualifications and training demanded of work seekers. Among the most detailed, in addition to the study of the tung-oil industry (summarized on p. 625), are studies of the textile industry in South Carolina; the tobacco manufacturing industry in North Carolina; the clay products, rubber, and glass industries in Ohio; the citrus industry and occupations in Florida; aircraft manufacturing in California; the lumber industry in Washington; and the dairy industry in Wisconsin.

The United States Office of Education, even before the establishment of its Occupational Information and Guidance Service, had issued a series of leaflets on individual occupations. The emphasis in this series is on training required and where it may be secured.

² Anderson, H. Dewey, and Davidson, P. E. *Occupational Trends in the United States*. [Palo Alto], Stanford University, 1940.

³ Iowa. State Board for Vocational Education. *Occupational Trends in the Production Industries*, by P. G. Frasier. Des Moines, 1938, p. 40. (Research Series No. 3.) Similar studies have been made for the service occupations and the distributive occupations.

⁴ Colorado State College and Federal Work Projects Administration. *Population Trends in Colorado, 1860 to 1930, a Historical Perspective for Agricultural, Industrial, and Human Planning*, by R. Roskelley. [Fort Collins], 1940.

⁵ See pp. 593 and 596.

⁶ New York. State University. Bureau of Guidance. *Occupational Information Monograph Series*. Albany.

⁷ At Connecticut College, New London, Conn.

A number of studies of occupational, industrial, and geographic mobility indicate the extent and character of adjustments required when employment opportunities in a particular region or industry change drastically.⁸ A considerable amount of work in this field was conducted through a series of sample studies made by the Work Projects Administration, National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques.

A few studies showing how occupational opportunity differs for individuals of differing family background have been made. Wholly devoted to this question is a study made by Anderson and Davidson, entitled "Occupational Mobility in an American Community." Many studies of recent school graduates, undertaken by educational bodies, also devote some attention to this question.¹⁰

The employment opportunities of special groups such as older workers,¹¹ woman workers,¹² Negro workers,¹³ and young workers,¹⁴ have received much attention. Two types of studies of young workers of considerable importance to occupational outlook are those dealing with the occupations and industries through which young people gain access to the world of work, and those dealing with the employment status of recent graduates.¹⁵



Occupational Outlook Service of the Bureau of Labor Statistics¹⁶

The Occupational Outlook Service was established in the Bureau of Labor Statistics in 1940. In submitting to Congress an estimate of the funds needed it was indicated that the Outlook Service should be visualized as having a continuing and growing function. The primary objective for the first year was to establish a firm foundation on which to build in later years.

The impulse for the creation of an Occupational Outlook Service came, in the first place, from the tremendous need for accurate forecasts of industrial activity similar to the outlook reports developed by the Department of Agriculture over a period of 30 years or more for various agricultural crops, the general level of prices for each of the major crops, and the probable amount of farm income. These outlook reports for the year are periodically revised and refined by current reports on the condition of crops, until, several months before the crops appear on the market, generally accurate estimates are

⁸ See pp. 191-199 and p. 539. See also pp. 557-587.

¹⁰ For instance, Federal Works Agency, Work Projects Administration, *Thirty Thousand Urban Youth*, Washington, 1940 (see footnote) (Social Problems Series No. 6); Minneapolis, Public Schools, *Follow-up Study of Minneapolis High School Graduates, Class of June 1938* Followed up in May 1939, Minneapolis, 1940 (mimeographed).

¹¹ See pp. 667 and 681.

¹² See pp. 951-957.

¹³ See pp. 598, 599.

¹⁴ See p. 995.

¹⁵ See pp. 1012-1014.

¹⁶ Summary of an address by A. F. Hinrichs, acting commissioner of U. S. Bureau of Labor Statistics, before a meeting of the National Vocational Guidance Association, Occupational Research Section, St. Louis, Mo., Feb. 21, 1940.

available for the agricultural income that will be realized in the year. It is reasonable to suppose that as long a period of experimental development will be necessary for industrial activity forecasts as was the case in agriculture.

No promises can be given as to when accurate short-run industrial forecasts can be made. At present, we lack not only adequate techniques, but also data that we know to be necessary to a sound appraisal of the current business position. For example, there is no adequate information at the moment with reference to inventories. Likewise, there is still lacking necessary information on the flow of new orders and of shipments of goods.

The Occupational Outlook Service is not going to use its limited resources in large collections of original statistical materials. Its resources are being devoted to the analysis of existing materials and to the stimulation of the collection of additional information which is vital to outlook forecasting in agencies that are already equipped to do the work. Thus, it is greatly interested in furthering the program of the Department of Commerce to collect adequate information on inventories and orders.

A more modest type of forecast work is being developed rapidly in the Bureau of Labor Statistics. Its records of employment and production in many industries run back over a long period of time. From these it is possible to develop substantially accurate estimates of the relationship between job opportunity and production. It cannot be the Bureau's exclusive responsibility at this time to guess whether or not the aggregate production of rolled-steel products, for example, will be 5 or 10 million tons larger in 1941 than it was in 1940. If, however, well-informed people are able to arrive at the conclusion that production is likely to be 5 million tons greater in one year than in another, it is the Bureau's business to be able to translate this guess with reference to probable production into a fairly accurate estimate of the amount of employment that will thus be created. This type of problem arises as a practical problem in forecasting in many instances. What, for example, will be the effect on employment of a given expansion or contraction of public works or of publicly financed residential construction? What does a given volume of foreign orders for airplanes mean in terms of employment? It is almost the first order of business for the Occupational Outlook Service to answer questions of this sort. While the development of significantly accurate quantitative estimates of changes in industrial activity may involve several decades of work, the determination of the relationships between given volumes of production and employment involves merely the refinement within the next few years of some of our existing statistical materials and techniques.

The impulse to establish the Occupational Outlook Service came, in the second place, from people interested in education and in the placement of young people in jobs. In its most direct form this is the question of what kind of job holds a promising future for Johnny Jones. The Bureau of Labor Statistics, a Federal agency, will never be in a position to give useful advice to Johnny Jones or Mary Smith. They live in a community that has its own peculiar occupational structure. The problem of advising individual young people is therefore of necessity a problem to be handled by people on the spot.

The Bureau's job is to furnish people who are facing the real problems of particular human beings with the type of information needed in order to make their work more effective. The Bureau's work must be largely confined to the determination of broad trends of occupational opportunity. For example, it should be able to establish with substantial accuracy the information with reference to technological trends that is necessary to prevent the unknowing entrance of young persons into blind-alley jobs. It is not necessary to indulge in crystal gazing to determine the leading changes in the occupational pattern of the next 5, 10, or 15 years. This is so because the most advanced industrial practice of today becomes the standard or average practice a decade or so from now. How rapidly the changes in industrial practice occur we do not yet know with as much accuracy as we may hope to know after some years of work. We do know, however, that new ways of doing work are introduced on an experimental basis. They prove themselves in isolated situations. When a new industrial practice is proven to be practical, the fact is known to the leading engineers operating in that particular field. So far, however, there has been no place in which the proven developments in different fields of economic activity have been assembled. Furthermore, in the early stages of such developments there has been little, if any, interest in the effect which they will have on the occupational pattern. It is the Bureau's job to assemble this scattered information and to establish as rapidly as may be possible a picture of the occupational significance of particular technological trends.

This will make possible useful forecasting, because the spread of new devices takes place over a period of years. For example, in the late 1920's there was a continuous strip-steel mill. The occupational pattern in this mill differs, of course, from that in the most recent mills built. But it did foreshadow the changes which became almost universal in this branch of the steel industry in the middle years of the 1930's. So, to cite another example, long-draft spinning was introduced and proven about 1930. Even today less than half of the cotton spindles in use are equipped for long-draft spinning. Normally, public consciousness of changes of this sort occurs when an acute problem of worker displacement on a large scale is faced. There is no reason why we should not be able to guard young people against entering into occupations which are almost certain to disappear in the foreseeable future, irrespective of whether business conditions in general are good or bad.

In speaking of blind-alley jobs, reference has been made to the negative aspect of our work. The question which Johnny Jones asks is not, "What jobs should I avoid going into?", but, rather, "What jobs have a promising future?"

Here, again, analyses of technological changes will yield some answers. While it is true that one can say that certain types of development are likely to result in a decrease in the number of people employed in specific occupations, it is usually true that new processes call for a certain number of new types of work. Therefore, if there is a prospective decrease in one type of work because of an impending change in technological process, there will usually be an offsetting development of occupational opportunity due to the change. At times these technological shifts of occupations occur within a

single industry. At other times the shifts occur because of the development of some new industry. Nylon, for example, promises to develop at the expense of silk. Very shortly it should be possible to determine what the probable change of occupational patterns is going to be.

Forecasting occupational changes over the next decade involves not alone a study of particular technological changes. It involves also a study of broad trends of demand. The problems of the cigar industry, for example, reflect not only the greater economy of machine production of cheap cigars but also a decreasing demand for cigars as opposed to cigarettes. On the other hand, the expansion of employment in the airplane industry does not imply that there have not been significant technological developments in this industry. The growth of employment in this industry reflects primarily the increased use of airplanes, in the first instance, for commercial purposes and more recently, of course, for military purposes.

Out of figures of the past, it is possible to project with some accuracy the lines of employment which are likely to increase and those which are likely to decrease. Thus, for example, the Census of Manufactures shows a remarkable growth between 1929 and 1937 in a number of industries. The development of synthetic resins and plastics has opened a new and still small field of employment. Stamped metalware, such as is used in wall and door panelings, has shown a large expansion. Many of the most significant developments, however, as regards the absolute increase of employment opportunity have taken place in industries which have already been well established. For example, there has been a notable development extending across many years in three industries which at one time were conducted primarily within the home—baking, canning, and the making of women's dresses. Again in many instances, one can measure or sense a shift as between industries. There was a very significant development between 1929 and 1937 in the manufacture of paper products of one sort or another. In part, there appears to have been a substitution of paper boxes for wooden boxes. It seems probable, also, that the repeal of prohibition involved not only an expansion of urban employment in industries producing alcoholic beverages, but also some decrease in employment in the production of confectionery and ice cream. Interestingly enough, there was no significant change in employment between 1929 and 1937 in industries engaged in the production of nonalcoholic beverages. Out of an analysis of trends of this sort, it is possible to arrive at certain reasonable inferences as to the stability of employment in various lines over the next decade.

It is not possible to project technological and market trends across the working life of a youngster coming out of school. Johnny Jones and Mary Smith can be guided away from blind-alley jobs. They can be steered into types of employment that promise to expand for a sufficiently long period so that they may become reasonably well established in the industry. What changes may occur 10 or 20 years from now, however, is, at the present stage of our knowledge, a matter of idle speculation.

For continuity of job opportunity, the person entering the labor market in 1940 would have to depend not upon the advice of a guidance

officer but upon the institutional structure within which job opportunities exist. Continuity of job opportunity depends not only on security against fluctuations in the volume of business activity, but also on the various forms of preference which are given to people in jobs and on the various methods that are employed to introduce technological changes with a minimum of human suffering and with a minimum dislocation of job opportunities for people presently employed.

There is room for tremendous progress in this field because under normal conditions there is a substantial flow both in and out of given types of employment in any year. The problem is, in part, one of relating the rate of technological change to this normal flow out of employment and, presumably, also of minimizing the inflow into occupations that are being eliminated. It is the function of the Occupational Outlook Service to correlate the individual experiences of progressive managements that have sought to ease the transition for their workers, in order that the developing consciousness of social responsibility among those who make industrial policy may have an opportunity to manifest itself in better practice.

Closely related to this type of work is the Bureau's work in the field of union agreements and experience under conditions of collective bargaining. In a consideration of occupational outlook it is important to follow the development in union agreements of various provisions relating to such matters as seniority, apprenticeship, and the learning period. More than that, it is also necessary to go out into the field to find out how various provisions work.

The encouragement of various devices to give greater stability of occupational opportunity to persons already employed may well complicate the problem of the young person seeking a job, especially during periods of depression. It is therefore of the utmost importance that the people of the country should have before them a continuous record of the changing rate at which young persons are able to find jobs. In individual schools and colleges, excellent work is being done in measuring this flow.

At the present time, there are several interesting experiments being conducted in the Federal Government which may furnish us with immediately needed information on a national plane. The Bureau of Labor Statistics itself has made a study of the flow of graduates of engineering schools into employment in the period from 1929 to 1934. The present budget will allow making such studies only occasionally. It would be desirable to make periodic studies of this sort to study the flow into jobs at both the high school and college levels.

What is the relationship between education and subsequent occupational opportunity? The census of 1940 will provide the necessary material to answer this question in decisive form for the first time. The census questionnaire calls for information on the highest grade of school completed, on age, on occupation, and on the amount of money wages or salary received in 1939.

Occupational outlook research is concerned with fundamental, technological, economic, and social trends. In addition to the fields already mentioned, two other general fields are of interest and of

importance. The first of these is changes in employment opportunity which are taking place in particular localities. By and large, such local trends can be more accurately established by work in the locality than they can be in an office far removed from the communities in question. There are, however, broad regional shifts going on within the United States which do influence the pattern of development in the localities within the various regions and which should be studied on a national basis. The Occupational Outlook Service of the Bureau of Labor Statistics will analyze these trends.

Finally, there is the analysis of the wide differences in capacity between different individuals. This field of interest is one which must be developed very slowly. In the first place it goes beyond the field of economic and social trends in which we have developed especial competence over the years and into the field of psychology. In the second place, it is a field in which guidance experts are working, and the Bureau intends to avoid any duplication and overlapping of effort.



Trends of Manufacturing Employment, 1929 to 1937 ¹

There is a striking similarity in the number of wage earners employed in manufacturing establishments in the United States in 1929 and 1937. An average of 8,329,548 wage earners were employed in 1929 and 8,567,738 in 1937. By and large, the total employment in individual industries or in individual States showed little change between the 2 years. There were, however, outstanding exceptions: industries or areas that showed considerable increases or decreases.

On an industrial basis, the most striking fact is the divergent trend of industries manufacturing construction materials and the remaining manufacturing industries considered in combination. Fifteen building-material industries show a net decrease of employment from 861,953 in 1929 to 665,153 in 1937, a loss of 196,800 jobs, or 22.8 percent. If an allowance is made for decreased employment in structural-steel departments of steel works and rolling mills, not included in these figures, the total decrease amounted to about 226,000 jobs. On the other hand, in industries other than these 15, employment increased from 7,467,595 to 7,902,585.

Changes in Census Classification

Before census totals can be compared, the figures for 1929 must be adjusted to be made comparable with those for 1937. The unadjusted census total for 1929, 8,838,743 wage earners, is 270,000 higher than the figure for 1937. There were, however, 7 industries included in the Census of Manufactures for 1929 which were not treated as manufacturing industries in 1937. Furthermore, though no allowance can be made for differences in the completeness of coverage, it is probable that the 1937 census somewhat understates the number of wage earners in that year.

¹ Abstract of an article by A. F. Hinrichs and Harry Brenner, of the Bureau of Labor Statistics, in the Monthly Labor Review for June 1940.

Industry Trends

Comparing employment in manufacturing industries in 1929 and 1937 on an industry-by-industry basis, one finds a limited number of industries outside of the building-material field in which employment declined substantially.

Three industries show net losses in employment attributable largely to technological shifts—cigars, tires and tubes, and silk and rayon. Cigars dropped 28,000 people. This reflects an absolute decline in the number of cigars smoked and a rapid introduction of machine processes for hand processes. There is no reason to expect that there will ever again be as many people employed in the manufacture of cigars as were employed in 1929. The trend may very well continue down. Silk and rayon employed 13,500 fewer workers in 1937 than in 1929.² The silk industry has been declining and will probably continue to decline. Rayon can be handled with fewer workers than equal quantities of silk. Tires and tubes dropped 20,000 people, reflecting fundamental and almost revolutionary changes in both the process of producing tires and in the life of the tires produced.

There are three industries in which substitution has accounted for very substantial losses of employment. The first of these is manufactured ice, from which industry 13,500 people were dropped between 1929 and 1937. Somewhere near this number of people appear to have been added in the manufacture of electric refrigerators. There were 13,500 people dropped in confectionery and ice cream. It was supposed that a fairly substantial part of the growth in the demand for confectionery and ice cream during the decade of the 1920's was attributable to prohibition. It is equally reasonable to suppose that the decline reflects, in part, the repeal of prohibition in 1933. In the manufacture of wooden boxes, 4,500 people were dropped. In this connection, it should be noted that the growth of the paper-box industry has absorbed nearly 10,000 workers.

It is not possible to account as definitely for declines of 19,000 wage earners in the furniture and wood-turning industries, of 7,300 in the production of rubber boots and shoes, of 7,100 in men's and women's hats and millinery, and of 6,800 in silverware, plated ware, and jewelry.

The above 10 industries or groups of industries employed about 788,000 wage earners in 1929 and about 654,000 in 1937—a decrease of about 134,000 wage-earner jobs. In order to make the list complete, one should perhaps add cotton textiles, employing an average of 435,400 in 1937 and 441,100 in 1929. Here then are possibly 139,000 jobs that disappeared on the basis of net changes of employment between 1929 and 1937.

The census gives evidence of only two industries in 1937 that employed as many as 10,000 workers which were essentially nonexistent in 1929. In the manufacture of alcoholic beverages of one sort or another, 62,000 additional people were employed. Virtually none had been legally so employed in 1929. Nearly 17,000 people were

² The actual decrease is somewhat less than 13,500 workers. In 1935, the Census of Manufactures made some changes in the classification of the silk and rayon industry, as a result of which some plants formerly classified in that industry were assigned to other industries. The number of workers in such plants cannot be determined exactly.

employed in the manufacture of synthetic resins and plastics. Only 3,500 workers were classified in this industry by the census in 1929. Essentially, therefore, we may say that there was a growth of 76,000 jobs in the new industries.

Five industries experienced an increase of employment of more than 40 percent between 1929 and 1937. While none of them may be regarded as a new industry, they are certainly indicating rates of growth sufficiently large to meet the desire that is expressed when we say that we need new industries in the United States. These industries were canning, which added 43,000 workers; stamped and pressed metalware, 21,000; rayon production, 16,000; aircraft, 9,000; and asbestos products, used largely for insulation, 5,000—a total growth in the 5 industries of 94,000 workers.

This is a growth within what may be described as new industries of 170,000 workers—substantially more than the decrease in all of the industries that were showing a fundamental tendency to shrink.

This does not complete the list of industries with growing employment. There were at least 11 that experienced a rate of increase of employment between 1929 and 1937 2 to 4 times as great as the increase in population. These industries and their respective increases were blast furnaces, steel works and rolling mills, 83,000; baking, 38,000; men's clothing, 26,000; shirts and collars, 10,000; women's clothing, 55,000; converted paper products, 26,000; chemicals, 17,000; glass, 11,500; rubber goods other than tires and boots and shoes, 8,000; leather products other than boots and shoes, 7,000; cigarettes 5,000—a growth of 286,000 in the number of wage earners employed in 11 industries.

An adjustment should be made in the steel figure. The net growth of 83,000 conceals decreases in some branches of steel production. There are no figures on the subject, but a loss of employment for 30,000 wage earners may be estimated because of decreased production of structural shapes, concrete reinforcing bars, and nails. The net growth for the rest of the industry was then not 83,000 but 113,000 wage earners. This would raise the total for these 11 industries (excluding steel for construction) from 286,000 to 316,000.

Finally, in terms of the industries which show growth of employment at a rate substantially higher than the rate of population growth, one should note knit goods with 22,500 and shipbuilding with 7,000.

All in all, therefore, in industries employing more than 10,000 workers in 1937 and growing substantially more rapidly than population, there was an increase of about 516,000 jobs in manufacturing—76,000 in 2 new industries; 94,000 in 5 industries with increased employment of over 40 per cent; 316,000 in 11 industries, basically old, but still showing a net growth of employment 2 to 4 times as great as population; and about 30,000 in knit goods and shipbuilding. Against this "new industry" gain of 516,000 is to be offset the loss of 139,000 jobs in industries with substantial decreases of employment opportunity.

The net gain is 377,000 jobs in relatively large industries showing pronounced trends of employment.

The striking changes in manufacturing employment are thus confined to a relatively small list of industries. Decreases occurred in the total for 15 industries manufacturing building materials: 862,000 in 1929 to 665,000 in 1937. In the 11 industries with large decreases noted there were 1,229,000 in 1929 and 1,090,000 in 1937.³ The 20 industries for which increases were noted employed 1,862,000 in 1929 and 2,347,000 in 1937.⁴

The remaining manufacturing industries showed smaller absolute changes than those that have been discussed. Some, of course, showed small decreases. Others increased. In general, outside of the building-materials industries and of the industries just listed as changing considerably, there were small gains. In the aggregate, they employed 4,378,000 in 1929 and 4,466,000 in 1937, a net gain of about 88,000 wage earners.

This means that in all manufacturing industries outside of the building-materials field there was a net increase in employment of about 465,000 wage earners,⁵ a gain of 6.2 percent. This large segment of employment—all of manufacturing outside of building materials—expanded almost exactly in proportion to population.

State Trends of Employment

When the same adjustments were made in each State as were made in the national figures, it was found that manufacturing employment was greater in 1937 than in 1929 in 23 States and the District of Columbia, while declines were found in 25 States (table 1). The increases ranged from 1.1 percent in New Jersey to 27.4 percent in Michigan. Pennsylvania showed a drop of less than 0.1 percent, while the greatest decline (19.9 percent) was experienced in Arizona.

In general, the States in the northeastern section of the country had not returned to their 1929 levels of manufacturing employment by 1937. This condition was true in four of the six New England States, in two of the three Middle Atlantic States, and in Ohio and Delaware. On the other hand, consistent gains were registered in the South. With the single exception of Mississippi every Southern State east of the Mississippi River showed an increase. Most of these gains were quite large; in only two cases were they less than 10 percent.

Two other regions showed important increases. Michigan, as has been noted, had an increase of 27.4 percent. Small increases occurred in Illinois and Indiana. This gain reflects increased employment in the automobile and steel industries. The Pacific Coast likewise

³ Not including radios, nonmechanical refrigerators, or ice-making machinery.

⁴ These figures include structural steel in blast furnaces, steel works, and rolling mills. They do not include mechanical refrigerators, wallboard, and gypsum, which in combination increased from 7,462 to 11,590, nor agricultural implements and tractors for which a 1929 to 1937 comparison is not possible.

⁵ This figure represents the difference of 435,000 that is the net sum of changes in industries (including all of the iron and steel industry) other than building materials, plus an allowance of 30,000 decline in structural steel made in plants classified in steel works and rolling mills that should be attributed to a decline in building materials.

experienced increased employment, notably in California, and Oregon. Finally, as part of the growth of southern industry, one should note the increase of employment in the Southwestern States of New Mexico, Oklahoma, and Texas.

In general, with the exceptions just noted, employment declined in the States west of the Mississippi River. The Great Plains and Mountain States have a relatively small number of manufacturing wage earners and the declines involve relatively few workers. Increases occurred, however, only in Nevada and North Dakota, the only 2 States in the Union with less than 3,000 manufacturing wage earners in 1937. The decreases in the States bordering the Mississippi are significant.

TABLE 1.—Number of wage earners employed in manufacturing industries, by State and geographic division, 1929 and 1937

State and geographic division	Number of wage earners in all manufacturing industries ¹		Per- cent of change	Number of wage earners, excluding those in industries manufacturing building materials ¹		Per- cent of change
	1929	1937		1929	1937	
United States.....	8,329,548	8,567,738	+2.9	7,467,595	7,902,585	+5.8
New England.....	1,081,122	1,022,350	-5.4	1,044,511	996,821	-4.6
Maine.....	68,820	75,464	+9.7	62,933	70,091	+11.4
New Hampshire.....	64,722	56,517	-12.7	61,017	54,348	-10.9
Vermont.....	26,503	23,682	-10.6	18,026	17,886	-.8
Massachusetts.....	547,509	496,036	-9.4	536,088	488,875	-8.8
Rhode Island.....	124,853	108,031	-13.5	123,482	107,175	-13.2
Connecticut.....	248,715	262,620	+5.6	242,965	258,446	+6.4
Middle Atlantic.....	2,448,741	2,386,743	-2.5	2,323,432	2,300,470	-1.0
New York.....	1,062,012	995,658	-6.2	1,029,910	968,822	-5.1
New Jersey.....	432,078	436,745	+1.1	420,854	427,971	+1.7
Pennsylvania.....	954,651	954,340	(*)	893,936	910,110	+1.8
East North Central.....	2,435,360	2,571,131	+5.6	2,267,457	2,450,677	+8.1
Ohio.....	712,616	694,205	-2.6	665,416	661,398	-.6
Indiana.....	297,333	313,342	+5.4	273,586	295,336	+7.9
Illinois.....	653,087	668,841	+2.4	623,821	648,423	+3.9
Michigan.....	518,520	660,676	+27.4	490,498	639,283	+30.3
Wisconsin.....	253,794	234,067	-7.8	225,454	214,276	-5.0
West North Central.....	418,316	406,176	-2.9	372,549	370,056	-.7
Minnesota.....	90,468	89,925	-.6	78,221	80,280	+2.6
Iowa.....	70,647	67,878	-3.9	61,661	59,797	-3.0
Missouri.....	187,264	186,891	-.2	170,442	173,669	+1.9
North Dakota.....	2,631	2,854	+8.5	10,217	10,839	+6.0
South Dakota.....	5,680	4,970	-12.5	4,455	4,079	-8.4
Nebraska.....	23,176	19,590	-15.5	11,766	11,381	-3.4
Kansas.....	38,450	34,128	-11.2	33,822	31,361	-7.3
South Atlantic.....	820,755	990,613	+20.7	700,039	859,829	+27.1
Delaware.....	21,476	21,052	-2.0	21,080	20,813	-1.3
Maryland.....	122,327	145,932	+19.3	115,111	140,365	+21.9
District of Columbia.....	8,202	8,714	+6.2	7,501	8,221	+9.6
Virginia.....	106,193	132,643	+24.9	90,936	115,567	+27.1
West Virginia.....	75,153	83,464	+11.1	62,536	74,129	+18.5
North Carolina.....	204,681	258,771	+26.4	181,322	223,847	+23.7
South Carolina.....	105,287	129,701	+23.2	87,223	116,479	+33.5
Georgia.....	130,286	158,686	+21.8	106,809	141,864	+33.8
Florida.....	47,150	51,650	+9.5	28,105	34,490	+22.7
East South Central.....	340,353	370,131	+8.7	.....	.....	+24.6
Kentucky.....	64,708	68,998	+6.6	51,499	57,115	+10.9
Tennessee.....	118,234	135,073	+14.2	97,866	119,456	+22.1
Alabama.....	109,116	120,093	+10.1	75,690	96,409	+27.4
Mississippi.....	48,295	45,967	-4.8	15,212	26,865	+76.6
West South Central.....	266,593	272,389	+2.2	.....	.....	+14.6
Arkansas.....	39,860	37,280	-6.5	15,878	17,739	+11.7
Louisiana.....	81,222	76,057	-6.4	47,537	51,513	+8.4
Oklahoma.....	29,067	29,551	+1.7	23,281	25,054	+7.6
Texas.....	116,444	129,501	+11.2	90,245	108,444	+20.2

See footnotes at end of table.

TABLE 1.—Number of wage earners employed in manufacturing industries, by State and geographic division, 1929 and 1937—Continued

State and geographic division	Number of wage earners in all manufacturing industries		Per- cent of change	Number of wage earners, excluding those in industries manufacturing building materials		Per- cent of change
	1929	1937		1929	1937	
Mountain.....	84,299	78,774	-6.6			-9.9
Montana.....	11,357	11,268	-8	7,306	7,966	+9.0
Idaho.....	14,590	12,797	-12.3	3,215	4,562	+41.9
Wyoming.....	4,035	3,795	-5.9	²⁰ 3,152	²⁰ 3,021	²⁰ -4.2
Colorado.....	28,003	25,932	-7.4	24,529	23,038	-5.9
Arizona.....	8,977	7,193	-19.9	6,361	5,244	-17.6
New Mexico.....	2,917	3,683	+26.3	1,090	1,436	+31.7
Utah.....	13,463	13,094	-2.7	12,280	12,066	-1.7
Nevada.....	957	1,012	+5.7	681	774	+13.7
Pacific.....	434,019	469,431	+8.2			+17.9
Washington.....	108,732	101,260	-6.9	42,878	46,310	+8.0
Oregon.....	62,230	65,982	+6.0	24,855	27,321	+9.9
California.....	263,057	302,189	+14.9	² 221,614	² 265,156	² +19.6

¹ Adjusted for comparability.

² Does not exclude clay industry.

³ Does not exclude cement, clay, lime, and lumber industries.

⁴ Less than 1/10 of 1 percent.

⁵ Does not exclude doors, etc., metal, and wallboard industries.

⁶ Does not exclude cement industry.

⁷ Does not exclude cement, clay and lime industries.

⁸ Does not exclude doors, etc., metal and roofing industries.

⁹ Does not exclude cement, doors, etc., metal, roofing, and wallboard industries.

¹⁰ Does not exclude clay, marble, planing-mill, and sheet-metal-work industries.

¹¹ Does not exclude cement, lighting equipment, wallboard, and window-shade industries.

¹² Does not exclude plumbers' supplies industry.

¹³ Does not exclude clay, doors, etc., metal, wallboard, and window-shade industries.

¹⁴ Does not exclude roofing and wallboard industries.

¹⁵ To avoid disclosure, 13 wage earners in 4 plants in the turpentine and rosin industry were not deducted in the adjustment for comparability; 2 of the plants are in Louisiana, 1 in North Carolina, and 1 in Texas.

¹⁶ Does not exclude lime and window-shade industries.

¹⁷ Does not exclude lime, structural and ornamental metal-work, and window-shade industries.

¹⁸ Does not exclude sheet-metal-work, structural and ornamental metal-work, and wallboard industries.

¹⁹ Does not exclude lighting equipment and plumbers' supplies industries.

²⁰ Does not exclude cement and wallboard industries.

The gross changes in employment by States do not tell the full story. More exactly, a decrease does not always have the same significance. In some instances—as for example, Arkansas, Louisiana, and Mississippi—the decrease reflects a decline in some basic industry that is more than adequate to offset general tendencies to growth. In these three States the lumber industry in 1937 was still suffering from the depression of the construction industry, and losses of employment in this industry hide gains in a number of others. In other instances—as for example, in New England—the decrease of employment was concentrated in industries which, on a national basis, held their own. Thus, cotton textiles grew in the South, while declining in New England. Finally, in a few cases the declines reflect among other things the importance of an industry with a generally declining trend of employment—as for example, cigar making in Pennsylvania. Thus, it is necessary to relate the two trends—shift in industry and in location—into an integrated picture.

As has been noted, one of the major results of the depression which began in 1929 was the large drop in building construction. It is in this field that the continued lack of recovery has been most notable

in its effect on manufacturing employment. In 1929, the building-materials industries employed 10.3 percent of all manufacturing wage earners in the country. However, their relative importance in the different States varied considerably. Thus, in Idaho they accounted for 78.0 percent of manufacturing employment, while Rhode Island had only 1.1 percent of its workers engaged in making building materials. These are not isolated extreme examples. In 7 States besides Idaho, these industries employed over 40 percent of the workers; Rhode Island was 1 of 6 States which had less than 5 percent of their workers in this field.

By and large, the factors making for the decline in employment in the building-materials industries apply equally to every section of the country. On the other hand, as has just been shown, the extent to which workers depended for jobs on the activities of these industries varied considerably from State to State. For this reason, the State changes in all manufacturing employment from 1929 to 1937 are not truly comparable. The percentage changes are distorted unequally in accordance with the varying relative importance of a group of industries having in each State the same tendency to decline.

This consideration is made clear when one examines the last 3 columns of table 1, covering employment in manufacturing industries, exclusive of building materials. The number of States showing increases in employment from 1929 to 1937 rises from 23 to 32. In addition, Ohio and Vermont, which experienced fairly large decreases considering all industries, now show declines of less than 1 percent. In fact, all but 1 of the 16 States still exhibiting a drop in employment have percentage declines smaller than those shown before the adjustment. Similarly, in every case but one (which remains at the same figure) the percentage increases are greater.

On a regional basis, the following main observations are noted: (1) Washington, where the lumber industry had declined severely, joins the other States of the Pacific Coast in showing an increase; (2) every State in the South Central regions shows an increase, whereas without the adjustment Mississippi, Arkansas, and Louisiana had shown decreases; (3) in the West North Central and Mountain regions the percent of decrease becomes less than 1 percent.

New Industries

A separate discussion has been reserved for two industries which may be considered as "new." In 1937, 63,351 workers were employed in making alcoholic beverages.⁶ There was virtually no legal employment of this kind in 1929; the total shown by the census for this year was 1,670. Almost every State in the country was benefited by the resumption of activity in these industries after the repeal of the prohibition act. Table 2 gives the 1937 employment figures by State for each of the 4 industries.

⁶ These employees were grouped in 4 industries by the Census of Manufactures, as follows: Liquors, malt, with 47,037 wage earners; liquors, rectified or blended, with 7,094 wage earners; liquors, distilled, with 6,215 wage earners; and liquors, vinous, with 3,005 wage earners.

TABLE 2.—*Employment in industries making alcoholic beverages, 1937*

State	Liquors, distilled	Liquors, malt	Rectified or blended	Vinous
United States.....	6, 215	47, 037	7, 094	3, 005
Arizona.....	(1)	(1)		
Arkansas.....			(1)	12
California.....	332	1, 611	376	1, 713
Colorado.....	(1)	298	(1)	
Connecticut.....	(1)	421	138	
Delaware.....		(1)		
District of Columbia.....		(1)		
Florida.....		385	(1)	
Georgia.....		(1)		(1)
Idaho.....		32		
Illinois.....	1, 038	2, 993	1, 443	(1)
Indiana.....	803	1, 675	1, 074	
Iowa.....		147		(1)
Kentucky.....	2, 070	993	238	
Louisiana.....	(1)	771	55	(1)
Maine.....			(1)	
Maryland.....	672	1, 377	871	(1)
Massachusetts.....	107	1, 025	321	
Michigan.....	(1)	2, 526	72	137
Minnesota.....	(1)	1, 725	(1)	(1)
Missouri.....	11	2, 823	42	(1)
Montana.....	(1)	154		
Nebraska.....		313		
Nevada.....		(1)		
New Hampshire.....		(1)		
New Jersey.....	79	1, 884	484	66
New York.....	169	5, 608	236	647
North Carolina.....		(1)		(1)
Ohio.....	251	3, 398	509	122
Oklahoma.....		(1)		
Oregon.....	(1)	103		14
Pennsylvania.....	456	4, 992	1, 102	
Rhode Island.....		340	(1)	(1)
South Dakota.....		(1)		
Tennessee.....		169		
Texas.....		903		13
Utah.....		(1)		
Vermont.....	(1)			
Virginia.....	52	104		
Washington.....		729	30	151
West Virginia.....		62		
Wisconsin.....		4, 038	30	
Wyoming.....		(1)		

¹ Withheld to avoid disclosure.

New York, with 6,640 employees, and Pennsylvania with 6,550 employees, were the leading States in such manufacturing in 1937. Over 20,000 workers were employed in beverage plants in the 5 States of the Great Lakes region, Ohio and Wisconsin each having over 4,000. The other States in which as many as 2,000 workers were hired in the industry were California, Kentucky, Maryland, Missouri, and New Jersey.

In 1937, 16,673 workers were engaged in the manufacture of synthetic resin. The earliest year for which comparable figures are available is 1931, when the industry employed 5,654 people. The industry has developed mainly in the northeast section of the country. Pennsylvania plants provided the largest number of jobs; the census indicated 2,524 wage earners there in 1937. New York and New Jersey, Connecticut and Massachusetts, and Delaware were the other

leading States in the Northeast. The only State in another section of the country which witnessed an expansion in this industry was Illinois, which was reported to have 2,164 wage earners in 1937.



Employment Prospects in the Petroleum and Natural-Gas Industry ¹

Both short- and long-time outlooks indicate that additional workers will be required in the petroleum and natural-gas industry. The increase will follow in part the expected continued growth of demand for motor fuel and lubricants, and in part other factors, such as the shortening of the standard workweek. These influences will tend to counterbalance a continued increase in output per man-hour owing to improved technology. For the next decade and a half the prospects appear fairly clear. Our proved reserves assure ample supplies for such a period and employment opportunities may be expected to increase, possibly at a somewhat slower rate than demand.

The long-time outlook is clouded by uncertainties regarding the extent of our reserves and the probable success of future efforts in exploration. This prospect, nevertheless, is one of growing difficulties in which technology finds it harder to overcome the handicaps of nature. The arrival of a stage of increasing cost and of greater human effort in production is forecast by experience in older producing fields. Finally, when output from wells undergoes major contraction and it becomes necessary to supply at least a part of the motor-fuel demand from alternative sources, such as coal and shale, society must expect to devote an increasing proportion of its labor force to the task of mining the minerals from which the motor fuel is extracted. Although the developments that probably would accompany a scarcity of oil and gas from wells can be visualized to a certain extent, just when the period of diminishing abundance will emerge only the future can disclose.

Although the outlook is for increasing employment opportunities, the influence of technology in modifying the composition of the working force is expected to continue. The demand for unskilled labor in most branches of the industry—notably exploration, refining, and pipe-line transportation—is disappearing rapidly. The trend is now toward trained technicians and skilled and semiskilled workers and away from the floating crew of roustabouts that formerly comprised the bulk of the industry's working force. In drilling there is still heavy work for the laborer, but even here increasing proportions of skilled workers are required. For the bulk of the industry's labor force youths with high-school education or its equivalent are preferred by oil companies as new employees. Most of those accepted for employment, moreover, usually are put through an additional schedule of training at company expense. There is little hope for reemployment of older, untrained workers who have lost their jobs in the industry.

¹ Abstract of an article by H. O. Rogers, of the Bureau of Labor Statistics, in the June 1940 issue of the *Monthly Labor Review*, which was an elaboration of chapter XI of a larger report entitled "Technology, Employment, and Output Per Man in Petroleum and Natural-Gas Production," by O. E. Kiessling, H. O. Rogers, and others, as one of the studies of the W. P. A. National Research Project in cooperation with the Bureau of Mines.

Prospects for the Future

An inventory of proved reserves indicates that supplies of both oil and natural gas are adequate for at least the next 10 years at the current—or even an expanding—rate of withdrawal. It appears likely, moreover, that new discoveries will continue to provide ample supplies for at least an additional decade. This opinion is based upon the view that (1) there remain large areas underlain with sedimentary rocks that have never been adequately explored; (2) there are deep productive formations to be discovered in present producing fields and in areas prospected only to shallow depths or never prospected at all; (3) knowledge of the occurrence of petroleum will continue to expand and further increases in the technical efficiency of exploration are very likely; and (4) there are no recent signs that the technologist's ability to find new oil fields is waning. Certainly, over the relatively short-time outlook of 2 decades there appear no physical barriers to additional expansion of the industry.

Despite the absence of telltale signs of exhaustion, it is clear that the constantly rising rate of discovery required by growing demand cannot be projected indefinitely into the future. Most of the discoveries to date have been made in new localities or at deeper horizons in some of the older areas, but each year the potential areas in which discoveries of major importance are possible are being reduced as a result of exploration. First, huge strips of the country have been discredited by geologists as possible sources of discovery because of the known character of the underlying rock. In addition, large blocks of the areas that the geologists have regarded as favorable for the discovery of oil have been explored to the basement rocks that mark the end of possible producing strata. There remain other areas where there are deep-lying beds that are oil-bearing at shallower depths and have yet to be penetrated by the drill. Past experience, however, seems to indicate that for certain areas the gravity of the oil becomes lighter and lighter as pay horizons are topped at deeper levels until the oil frequently exists as distillate; thus it appears that at still greater depths the hydrocarbons may exist only in the gaseous state. Just how these and other developments may affect the status of the industry in the more distant future is uncertain.

A current development that confuses somewhat the outlook for motor-fuel demand has been the increasing use of Diesel motors. Although the first cost of Diesel-powered cars is relatively high, operators of trucks, busses, and tractors have turned to Diesel engines because fuel costs are notably smaller than those for equivalent power with gasoline.



Employment Prospects in the Tung-Oil Industry ¹

The expansion of tung- or China-wood-oil production in the United States to a level adequate to meet the demand for such oil in this country would employ 200,000 persons. This is the conclusion of a

¹ From the Monthly Labor Review for August 1940, pp. 308-310.

report on this industry in Mississippi which has just been published by the National Youth Administration of that State.²

At present the United States uses 75 to 80 percent of the world production of tung oil—a requisite in the making of paints and varnishes—but has never produced over 2 percent of the world output. It is also pointed out in the same report that in the Southern States there are approximately 1,000,000 acres of land which could with profit be planted with tung trees. There are only about 180,000 acres of tung trees in this country, and these are mainly in the South.

In addition to being a highly important ingredient in paint and varnishes, tung oil is used in several hundred other industrial products, among them printers' ink, waterproofing, and plastics. It is estimated that industries in the United States will in the future absorb 400,000,000 pounds of tung oil per annum, as compared with 87,415,000 pounds in 1938.

For thousands of years tung oil has been in use in China—its country of origin. Groves and new plantings, however, have been for the most part on waste land, rocky hillsides, and roadsides ill adapted to farming. Hand labor, combined with crude machinery, is used throughout the Chinese tung-oil sections. Large amounts of oil are wasted, and that which is secured is of an inferior quality, generally mixed with dirt and other matter.

Experience has shown the business risks associated with dependence upon a single foreign market for obtaining a basic raw material for which the demand in this country has continued to be large.

Development of the Industry in the United States

Wide research concerning the substitution of tung oil for linseed oil in ordinary paints is apparently resulting in an increase in such substitution.

Chemists have reported that a highly profitable market for tung oil for use in the making of plastics would result from an increased supply of the product. Tung-oil meal, a byproduct of tung oil, has important possibilities. Some chemists have predicted that its value will surpass that of the oil itself when this meal is used to its full extent.

Commercial production of tung oil in the United States was begun in 1932 with the shipping of 2 tanks of this oil from Gainesville, Fla. In 1934 about 400,000 pounds were produced from tung nuts grown in the Gulf States. The crop for 1938 produced approximately 4,000,000 pounds of tung oil. At the present time the major production regions are northern Florida, southern Mississippi, Georgia, Alabama, Louisiana, and the Gulf Coast area of Texas.

The Job Outlook

In the judgment of the author of the report "it is certain that as the American tung industry becomes of age in the Southern States, more and more persons will find jobs in that industry. Probably

²National Youth Administration for Mississippi, *Tung Oil Production in Mississippi*, An industrial study, Jackson, 1940; also, National Youth Administration press release, June 19, 1940.

job possibilities will arise that are now not contemplated. However, at the present time there is no shortage of labor, except possibly during the harvesting season, lasting 60 to 90 days."

The fact that the industry is a new one in the United States and other reasons bound up with the nature of agricultural production, make employment opportunities uncertain. Moreover, no job divisions, wage scales, or promotion lines have ever been definitely established. The industry is unorganized and employment in it is seasonal even in the tung mills, as the nuts must be processed within 6 months after they are harvested.

Wages in the industry are from 80 cents and \$1.00 per day for unskilled laborers to \$2 and \$2.50 per day for semiskilled workers. Clearing, cultivating, and harvesting are done by common laborers. The semiskilled laborers include tractor drivers, truck drivers, crew foremen, and tung-mill machine operators (firemen, oilers, expeller men, helpers, and lay-out men). Among the skilled employees in the industry are farm managers, who receive from \$30 to \$35 per week, laboratory technicians at \$125 per month, and bookkeepers and stenographers at \$65 per month. Individual farmers may make approximately \$10 an acre per annum, while promoters may earn up to \$5,000 a year.

Employment in the tung industry in Mississippi may be estimated as follows:

	<i>Persons</i>
10,000 acres of new land cleared each year-----men--	400
2 mills operating in Mississippi-----do--	25
100,000 acres in cultivation-----do--	500
Harvesting 60,000 acres-----	3, 500
Promoting and managing-----	50
Laboratory-----	3
Secretarial-----	5

The many employment shifts in the tung industry because of its seasonal character impede any intelligent vocational planning. Unless a person has had previous training or has substantial financial backing, he has little chance to develop or make progress in this industrial field.

Generally speaking, the small number of higher salaried positions in the industry have been held by persons who have not come up from the ranks. As a rule, common laborers and helpers are not promoted, while trained men for the more skilled types of work are brought into the industry.



Future of Employment in the Mineral Industries ¹

Little likelihood exists of the mineral industries as a group furnishing employment to a much larger volume of workers than in the 1920's, according to the findings of a study dealing with technology and the mineral industries made for the National Resources Committee.²

In the mineral industries the influences that tend to reduce job possibilities—that is, mechanical improvements—are operating in the face of growing physical difficulties in mining. This is in contrast with conditions in manufacturing industries, and at times the effects of deple-

¹ From Monthly Labor Review for July 1937 (p. 124).
² U. S. Works Progress Administration. Technology and the Mineral Industries, by F. G. Tryon and others. Washington, 1937.

tion more than offset improved methods of extraction, discovery of new resources, and better transportation.

Changes in labor requirements in the different branches of the mineral industries, however, are not expected to move in the same direction within the next few years, the report under review states. For example, it is stated that "in coal mining the forces making for labor displacement are strong enough to be a cause of some concern." Neither is metal mining expected to show an increase in employment, but in oil and gas production the indications are that labor requirements will tend upward. As metal proves more difficult to mine, it is believed likely that fuel will be needed in greater volume for mining, concentrating, and smelting low-grade ores. Should supplies of oil and gas fail to meet expectations, there would then be an increased demand for coal.

Mechanization is also expected to bring about changes in living conditions for mine workers. As the investment in mechanical equipment is increased, larger operating units result. The size of plant in turn affects the location and size of mining towns. Fewer company towns are therefore likely to be built in the future and workers will drift from isolated camps to central communities. This movement is already under way, as hard roads and cheap automobiles enable labor to live in permanent towns, riding to and from work in the surrounding area.

A high proportion of the costs of technological change is borne by workers, the report states. While changes in technique should aid in improving working conditions, this does not always result. As methods are altered, the needs for certain skills are done away with, and the degree to which labor profits often depends upon such factors as economic stability of the mineral industries, adequacy of protective legislation, and the bargaining power of the workers.

Mine workers, who formerly worked independently, are more and more being organized into groups under the modern mechanized systems of production. As old skills cease to be required, a higher turnover of workers is inevitable, with losses in working time. Men require less sheer strength than formerly and better knowledge of the mines and more skill in operating machinery. In handling mobile machines, particularly, men need "quick reaction time, a sense of responsibility, and intelligence." This entails securing a higher proportion of workers with education and will tend to attract youths to the mines who would ordinarily seek surface employment. These influences are likely to affect the position of the older worker adversely.

In the chapter dealing with technology in coal mining the discussion deals with bituminous production. This branch of the industry has experienced the greatest substitution of power for human labor in strip or open-cut mining. The immediate outlook points to growing production from stripping. So far it has proved practicable to remove as much as 50 feet of overburden to recover a 5-foot coal seam. Size, power, and range of the shovels employed have been materially increased. Only one-half to one-third as much labor is required in open-cut mining per ton raised as in deep workings. Ultimately, however, the limit for production from open cuts will be reached as coals nearest the surface are mined. Coal so produced

yields a higher percentage of the mineral resource than in underground mines, but creates other problems, in that the surface is often of little value as a soil resource. Mechanical cleaning and loading are also playing an important part in labor displacement.

To curb these movements, that is, "to block the advance of mechanization, would offer no solution for the difficulties of the industry." The alternatives, as the writers of the report reviewed see them, are to place the entire burden on the mine workers by cutting wage rates, or to use mechanization to meet the competition of other fuels or of coal from districts paying lower rates.



Employment Opportunities in Small-Scale Placer Mines¹

In a study published in 1937 of gold-placer mining as a means of mitigating unemployment,² the conclusion was reached that this field offers little economic security, and with some exceptions falls short of providing reasonable minimum standards of living. The study was carried on through a cooperative arrangement between the Works Progress Administration and the Bureau of Mines, and presents the first comprehensive data on employment and production in small-scale placer mining in the United States.

During the depression many of the jobless migrated to gold fields in California and other Western States, in quest of a livelihood. This movement increased as rumors multiplied that gold was being recovered, and as its price rose to \$35 per ounce. In 1935 more than 28,000 persons were engaged in small-scale placer mining in the United States—a working force almost double that required for iron-ore mining in the same period, and more than triple the number required to mine the copper in the United States in 1934. The average number of days worked during the year by the 28,000 miners, each of whom made at least 1 sale to a bullion purchaser, was 45. The miners' average daily gross income for the 45 days was \$1.60, and the average gross income for the year from this source was \$72. An unknown number of those who undertook placer mining found no gold at all.

Employment and Production

The following table shows the variations in number of days worked and the average gross value of gold produced per miner in different States in 1935.

¹ From the Monthly Labor Review for August 1937.

² United States Works Progress Administration. National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques. Mineral Technology and Output per Man Studies, Report No. E-2: Small-Scale Placer Mines as a Source of Gold, Employment, and Livelihood in 1935, by Charles White Merrill, Charles W. Henderson, and O. E. Kiessling. Philadelphia, May 1937.

Summary of small-scale gold placer operations in the United States in 1935, by States

State	Employment		Gold produced		
	Reported number of miners working	Average number of days worked	Fine ounces	Value	Average gross value per miner
All States.....	28,022	45	57,557.26	\$2,014,503	\$72
Pacific Coast States:					
California.....	19,463	40	29,516.95	1,033,093	53
Oregon.....	3,229	37	4,020.86	140,730	44
Washington.....	250	89	1,547.60	54,166	217
Rocky Mountain States:					
Colorado.....	1,047	60	4,379.74	153,291	146
Idaho.....	1,314	85	8,134.07	284,692	217
Arizona.....	1,184	42	2,492.12	87,224	74
Montana.....	711	101	4,586.48	160,527	226
New Mexico.....	233	55	801.17	28,041	120
South Dakota.....	214	60	491.43	17,200	80
Nevada.....	130	73	829.00	29,015	223
Utah.....	41	89	255.80	8,953	218
Wyoming.....	38	74	142.04	4,971	131
Southern Appalachian States (Georgia, Virginia, North Carolina, South Carolina, Alabama).....	168	60	360.00	12,600	75

Living Conditions

Although the small placer miner's income is low, he finds many aspects of his life alluring. It costs little to live in the hills. Food, gasoline, tobacco, and a few other items are the only expenses. Rent is eliminated by building cabins of logs and refuse material. Fuel for cooking and heating is gathered from the woods, water is available from the streams, work can be done by daylight so that lights can be dispensed with, and clothing costs next to nothing. The cheap living seems to have had an appeal, aside from the wish to engage in mining.

To labor without supervision and to be able to take a vacation whenever so minded are generally regarded as advantageous by the worker. Moreover, from time to time large nuggets are discovered and the million-to-one chance against the miner's having such luck does not eliminate the hope that his next "clean-up" will be a rich one.

Extent of Mechanization

The mechanization of large-scale gold placer mining, especially the development of the dredge, has made it possible to work many low-grade gravels with profit. It was difficult, however, to ascertain how far the miners in general have taken advantage of modern cheap power in wresting a livelihood from the creeks. It should be recalled, however, that these men and women who took to placering in the depression had little capital.

Ages and Former Occupations of Miners

More than 75 percent of the small-scale placer mines and miners were found in the Pacific Coast States, California having approximately 6 times as many migrant gold miners as any other State. In California more than 75 percent of the 139 miners who reported their

ages were over 40 years old and approximately one-half were over 50, 24 being between 61 and 70, and 8 being between 71 and 77. The majority of these operators had no dependents.

The small-scale placer operators in California represented a great variety of occupations. Among these miners were an acetylene welder, an adding-machine salesman, an automobile electrician, 4 automobile mechanics, an aviation mechanic, a baker, a bill collector, 6 housewives, 3 itinerant fruit harvesters, a journalist, 7 lumberjacks, a motorcycle mechanic, a navigator, a newspaper circulation manager, a real estate rental agent, a restaurant manager, a shipping clerk, a shoemaker, a sign painter, a teacher, a waiter, and a water-well driller.



Individual Productivity Differences ¹

In any one establishment substantial productivity differences may exist between individuals engaged in similar tasks, and these differences have an important bearing on many social as well as industrial problems.

Information regarding the way in which individuals may be distributed when ranked by their efficiencies is often of major importance in settling questions of personnel policy. Beyond the field of private industry, individual productivity differences are related to many questions of public policy. For example, the problem of the slow worker must be considered in every attempt to set minimum-wage scales in industry by legislation, since minimum wages may result in the displacement of the less efficient or the slower workers from some industries. To prevent this type of displacement, it is frequently proposed that the affected employees be classed as "substandard," "handicapped," or "slow" workers, and so be permitted to retain their jobs.

Recognizing that slower workers, as a class, are most likely to be affected by any changes, legal or industrial, it becomes of importance to know something of their characteristics. How many workers, of what sex and what age, are likely to be involved under any given set of conditions?

Research workers have shown that a single job or occupation may call into play scores or even hundreds of different aptitudes or basic abilities. Differences in productivity appear to spring fundamentally from differences in these basic abilities. However, the training of the worker and his application to the job at hand also condition productivity.

The study of individual productivity differences requires information covering a large number of workers employed on the same job. Such data are scarce. Examination of all available distributions of workers by their productivity shows a typical form; most workers are clustered near the average productivity for the group as a whole, and the concentration diminishes as the distance away from the average increases.

¹ Abstract of article by W. D. Evans, Bureau of Labor Statistics, in the Monthly Labor Review for February 1940. The article is the first part of a report published by the Bureau of Labor Statistics in pamphlet form (Serial No. R. 1040).

In many occupations selection of personnel is not stressed; that is, no particular attempt is made to obtain the most efficient workers for employment. When the distribution of workers by their productivities in such an occupation is examined it is seen to be nearly symmetrical. In other words, about as many workers will be found at any distance below the average productivity for the group as will be found the same distance above it. Selection of personnel by the management tends to reduce the number found below the average and the distribution loses its symmetry.

The tendency for workers to be scattered away from the average productivity rather than grouped closely around it is, of course, greatest in a handicraft occupation where production per unit of time depends solely on speed of the worker and not on the speed of machines or equipment.

A number of productivity distributions of trained workers in handicraft occupations were examined. All those referring to jobs in which selection of personnel was not an important factor were found to be strikingly similar, the spread or dispersion of the workers around the average for the group being almost the same in every case. This was true despite the fact that the occupations studied demanded widely differing degrees of skill. In each case two-thirds of all workers were found within limits of roughly 23 percent above and below the average productivity of the group as a whole. About one-sixth of the workers, on the other hand, were in general 23 percent or more below the average in efficiency, and an equal proportion was more than 23 percent above the average. The range between the least and the most efficient was such that in a large body of workers those individuals with the greatest productivity would be found working at a rate 3 and 4 times as great as those at the lower end of the distribution.

The remarkable similarity noted between productivity distributions of workers in vastly different handicraft occupations suggests that an objective approach to a definition for "slow" or "handicapped" workers may be revealed by further study of the subject. The development of such a criterion must, of course, wait upon the availability of the type of information needed to test the hypothesis.

In connection with the study of productivity distributions, some information on the productivity at different age levels of workers in manual occupations has been examined. The data available show that, in some occupations, productivity does not in general reach its maximum until the worker is at least 30 to 40 years of age. Moreover, the decline after the most productive age has been reached is not abrupt. The dispersion of individuals at each age level around the average productivity of all at that age tends to be about the same for all age groups, so that even at advanced ages many individuals may be found whose productivity is well above the average for the younger age groups. Because of the relative infrequency of older employees in industry, it is possible that slow workers, as a group, may be predominantly younger persons. This would tend to indicate that the "slow worker" problem is not necessarily even in major part an "older worker" problem.

Employment of Handicapped Workers

Employment Opportunities and Vocational Guidance for the Deaf¹

A report of the United States Office of Education, published in 1936, presented the results of a study² of the deaf and the hard of hearing in the occupational field. The study involved a survey of the actual employment status of deaf and hard of hearing persons, their success in the occupations they follow, and the opinions of employers concerning them as workers.

Early in 1934 a staff of 322 field agents made an intensive investigation in 44 different centers, located in 27 States and the District of Columbia. Data were secured from 19,580 persons of employable age of whom one-third were women. About one-half of the total number reported they were profoundly deaf and the other half stated they were hard of hearing. For 7,583 of these handicapped persons, reports were also obtained from their employers.

Employment status.—Only 55.6 percent of those desiring employment actually had jobs. However, in view of the serious unemployment of all workers at the time of the survey, the situation of these handicapped people was not so disproportionate.

Men who stated that they could understand loud speech with or without an earphone seemed to be less successful in getting and holding jobs than those who were profoundly deaf. It is pointed out in the summary under review that possibly those who reported that they could understand loud speech without an earphone were indulging in wishful thinking and were endeavoring to hide their disability. The adjustment of such handicapped persons is not easy in a situation which requires their taking directions quickly. Those who are frank enough to acknowledge their loss of hearing and who avail themselves of hearing aids are more likely to hold their jobs.

One of the most important relationships shown in the study is that between school attainment and employment status. The trend is clearly upward in the percentage of employment as educational preparation is more extensive.

Types of occupation.—Over 250 general occupational activities were reported for the handicapped persons covered by the survey. Within these general classifications is a much larger number of specific jobs.

Arranged in a descending order of frequency of occurrence, as disclosed in the survey, according to the 10 major groups used by the United States Bureau of the Census, the occupational classes in which these handicapped persons were reported, are (1) machine operation and general labor; (2) manufacturing and mechanical trades; (3) clerical occupations; (4) domestic and personal service; (5) professional and semiprofessional service; (6) trade; (7) agriculture, fishing, hunting; (8) managerial positions; (9) transportation and communication; (10) public service.

¹ From the Monthly Labor Review for December 1936.

² United States Office of Education, *School Life*, Washington, October 1936, pp. 43-44: Guidance of Deaf and Hard of Hearing, by Elise H. Martens.

Degree of hearing loss.—The degree of deafness naturally has an influence upon the types and range of occupations in which an individual can be successful. In illustration, 45.6 percent of the men who were profoundly deaf were employed as factory operatives or unskilled workers; only 25.6 percent of those who were able to hear loud speech without mechanical aid were reported in these occupational groups. However, about 15 percent of the men able to hear with or without a hearing appliance were engaged in trade activities, and only 2.4 percent of those who could not understand speech at all were so employed.

The proportion of operatives and laborers among the women who were profoundly deaf was 50.7 percent—even higher than the proportion among the men with a similar handicap; while the percentage among the women who were able to hear with or without an earphone, was found to be 14.8. These and other findings show that the greater the hearing loss the more restricted is the occupational range.

Training versus occupation.—Ninety percent of the men with jobs had been prepared in a school for the deaf for one of the mechanical trades, but only 30.9 percent of them were reported as being engaged in these occupations.

The men reported as compositors were about one-third as many as the number trained for the work. There were actually employed approximately one-tenth as many carpenters, three-eighths as many bakers, one-seventh as many cabinet-makers, and one-fourth as many tailors and cobblers as there were persons trained for these specific occupations. For women, the lack of balance between training received and occupation followed was equally great.

Employers' comments.—Of 3,000 persons employed in a department store, 100 were reported deaf or hard of hearing. These handicapped persons were engaged in typing, bookkeeping, and comptometry. Their service was commended by their employer who pointed out that they are not subject to distraction by the noise around them. A payroll clerk in another business organization was reported as an excellent lip reader, and some of his associates were not aware that he was deaf. Another deaf man was rated by a county recorder as "one of the very best copyists—an expert." Numerous other favorable statements were made by employers relative to the deaf and hard-of-hearing members of their personnel. Some employers stressed the dangers of machinery for the deaf, but others were of the opinion that the sense of sight and sense of vibration of these handicapped workers are so keen that they are conscious of hazard and are rarely the victims of accident. Many employers favor the use of hearing aids, the learning of lip reading, and speech practice.

In general, employers point predominantly to jobs of semiskilled or unskilled nature as most suited to a person who has profound hearing impairment. As one employer expressed it, "any routine position" in which the same operation is performed over and over again and in which there is little need for communication seems to offer the greatest possibilities. Another indicated that the deaf work best when given something to do at which they can work alone. "The deaf do not fit into groups," it was claimed. "They are too frequently sensitive and uncooperative." Still others pointed to the prohibitive amount of time needed in making adequate explanations.

Need of guidance.—The above statements should not lead to the conclusion that the possibilities of advanced training or of advanced employment for deaf persons able to avail themselves of these advantages should not be considered. In fact, 7 percent of the men,

and nearly 13 percent of the women employed at the time the investigation was made were doing professional or semiprofessional work. Individual differences among the deaf pupils have as much significance as among those who can hear well. Proper guidance requires a knowledge of physical fitness, mental capacity, mechanical skill, and personal characteristics. Cumulative data on these items are requisite in any guidance program.

The closer hearing acuity is to normal, the greater the employment opportunities, especially for those who recognize their disability and use every possible means to offset it through hearing appliances, lip reading, and the preservation of the purity of speech.

The installation of a well-organized personnel or guidance program is advocated for every day school and every residential school for the deaf and hard of hearing. Included in the objectives of this program should be an analysis, both of the needs and abilities of the individual, and of the local occupational opportunities. "Among the great tasks facing us in the education of all types of exceptional children is that of finding the occupations in which they can serve happily and in which a handicap may be transformed into an asset."

Employability of the Handicapped ³

Estimates made from partial censuses by various agencies indicate that there are in the United States approximately 4,000,000 handicapped persons, of whom 2,200,000 are in the working ages 17 to 64. In a report ⁴ by a committee of the American Association of Industrial Physicians and Surgeons dealing with this problem, a handicapped person was defined as "any person in whom there exists a permanent physical or mental or functional nervous defect or infirmity of at least appreciable degree of severity, whether congenital or acquired by accident, injury, or disease." This definition would include in its scope all permanent impairments which cause either total permanent disability or a definite handicap for employment, or which place no limitation whatever on an individual's employability. The study was limited to the physically handicapped, although it was recognized that there are many persons handicapped to some extent by mental or personality defects, by epilepsy, and by other functional disorders of nervous origin.

Number of physically handicapped.—No reliable estimate could be made of the proportion of the 2,200,000 persons of employable age who were totally disabled, but it was estimated that at least 300,000 handicapped persons in the country are in need of self-supporting employment. Likewise, no reliable census covering the entire country has been made of handicapped workers who are employed. Surveys show wide variations arising from different employment policies, the nature of the industry or the type of occupation, labor demand and supply, and the degree of cooperation of employer and employee in disclosing handicaps. One of the best of such surveys, made in California, showed that 2.3 percent of nearly 170,000 employed persons in industry were handicapped, while 7.9 percent of employees in the public service were handicapped.

³ From the Monthly Labor Review for November 1940.

⁴ Industrial Medicine (Beloit, Wis.), September 1940: Report of the [American Association of Industrial Physicians and Surgeons] Committee on the Employability of the Handicapped, by Daniel L. Lynch and others.

It is reported by the Bureau of Vocational Rehabilitation of the United States Office of Education that 800,000 persons become permanently disabled each year through congenital defect, accidental injury, or disease. The functional capacity of approximately 600,000 of the yearly total of 800,000 persons becoming permanently handicapped each year either is not affected or is so slightly reduced that these persons are able to work. The disability of about 50,000 is such as to render them permanently unemployable, and approximately 40,000 are either under or over the age of employability. Of the remaining 110,000, about 20,000 are in receipt of vocational rehabilitation, and a fraction do not seek employment by reason of circumstances. The remainder, probably 75,000, represents the annual increment of handicapped employable persons.

Causes of physical impairments.—The causes of permanent physical impairments were found by the National Institute of Health, in a survey of 312,000 persons, to be accidental injury in 61 percent of the cases, disease in 33 percent, and congenital defects in 6 percent. An analysis by the National Safety Council of 400,000 permanent nonfatal disabilities in 1936 showed that 41.4 percent occurred in the home, 25.6 percent were motor accidents, 17.1 percent were occupational accidents, and 15.9 percent were accidents occurring in public places. The first survey revealed that the majority of permanent impairments result from accidents, but the second analysis brought out the fact that a man at work is relatively safe from injury.

Rehabilitation of the handicapped.—Practically no organized effort was made to provide for the handicapped prior to the nineteenth century. During the past 75 years and particularly in the last few decades, public recognition of the needs of the physically handicapped as a whole has resulted in organized efforts by both public and private agencies to provide adequate treatment, vocational rehabilitation, and employment placement for the crippled and disabled.

The need for a constructive rehabilitation program has also been emphasized by the increase in disabling accidents in recent years. Workmen's compensation laws failed to meet the problem, since compensation benefits frequently do not provide a margin whereby a disabled worker may fit himself for reemployment, and few disabled persons are able to adjust themselves to new vocations of their own initiative. The entry of the United States into the World War had a significant effect upon the whole problem, as in June 1918 a law was passed providing for the vocational rehabilitation of disabled soldiers, sailors, and marines. The program was taken over by the Veterans' Administration in 1921, and in 1928 when these activities stopped, 97.8 percent of the war disabled, who were unable to follow their pre-war occupations and who undertook retraining, were employed. The Federal Vocational Rehabilitation Act of 1920 has now been accepted by all of the States, the District of Columbia, Hawaii, and Puerto Rico.

Employment possibilities.—Various surveys have been made showing the types of disabilities in the general population and among employed persons. Although disablements of the hands accounted for only 7.2 percent of the disabilities in a group of the general population, such disability was found in 23.1 percent of the total disabilities

in a group of 5,000 employed persons. This suggests that although hand impairments do not bulk large in the general population they do form a plurality of disabilities among the employed group, indicating either that persons so handicapped are most readily employable or that they are more frequently reemployed because their injury was an occupational one. The large number of leg disabilities in both groups suggest that this type of impairment is not a severe handicap to employment, owing in some measure perhaps to the efficiency of artificial appliances. Disability from cardiac defects is relatively difficult to adjust to employment, while the blind are the most unfortunate group.

The actual performance of handicapped persons in comparison with nondisabled workers was shown to be very favorable in a survey, made by a large manufacturing plant, of about 685 disabled and the same number of nondisabled workers. Resignations, absences, and discharges for cause were found to be from 7 to 8 percent higher among the nondisabled, while there were 5.6 percent fewer accidents among the disabled. A slightly higher percentage of the disabled (4.6 percent) as compared with the nondisabled (4 percent) received increased earnings.

The employability of the handicapped was found to be to a definite degree a psychosocial problem. Crippled and disabled young persons entering the age of employability are doubly handicapped by reason of their disability and by their lack of skill. Vocational rehabilitation and placement have much to offer these young persons if there is time and opportunity for training. Vocational training or retraining should be undertaken within a period of 5 years from the occurrence of disability or the arrival of the handicapped at employable age. After that time has passed, such persons probably have become adjusted upon welfare relief, have accepted a job at greatly reduced wages, or have become unemployable because of loss of skill, adaptability, or morale.

Limitations on the employment of handicapped persons are found to result from the disinclination of some employers to reemploy injured workers; from the operation of workmen's compensation laws, in most States, which definitely tend to militate against the employment of handicapped persons rather than to assist in their reestablishment in employment; and from the inadequacy of many of the laws in providing for the payment of compensation for second injuries, which operates against reemployment of disabled workers. Also, since the advent of preemployment physical examinations in industry, which applies also with particular emphasis to the Government and most of its subdivisions, the physically handicapped person has frequently found his opportunities limited.

General conclusion.—In conclusion, the report states that "the great majority of handicapped persons are so slightly or moderately impaired in function capacity, or their handicap is so well compensated by their remaining faculties, that they find work or return to their regular employment of their own initiative. The large progressive industries of the country do not discriminate against handicapped persons suitably trained or adaptable for the work. The number of unemployed but really employable handicapped persons in the

country, as a group, does not appear to be out of proportion with unemployment among supposedly nonhandicapped persons who likewise need employment for their support and the maintenance of their families.”

Employment of the Handicapped in California ⁵

The proportion of physically handicapped persons successfully employed in California was greater in 1934-35 than the proportion of such handicapped persons in the general population of employable age in that State. This encouraging fact was revealed by a census and industrial survey which was begun in 1934 and continued through March 1935.⁶

The number of employees in 3,250 establishments in 182 different types of business and industry covered by the survey aggregated 169,469, of whom 3,925, or 2.3 percent, were disabled. The percentage of disabled persons of employable age in the general population was nearly 1.6.

The causes of the disabilities of the handicapped employees covered in the survey included industrial or other accidents, congenital defects, or disease. These handicapped workers in general were paid the standard wage for the type of work performed; almost 95 percent of them were reported as filling their jobs satisfactorily; and, in more than 75 percent of the cases, they had opportunity for promotion. Their employers, as a rule, were willing to take under consideration the employment of other trained workers with disabilities.

Unsatisfactory experiences of employers in hiring disabled workers in the past is explained largely by the fact they were often placed unsuitably or without adequate training. Rehabilitation service to aid in guidance for selection of a suitable vocation and training for the selected job are the means of scientific vocational adjustment of the handicapped.

The objections of some employers to hiring disabled workers have been found by many other employers to be invalid. On the contrary, the majority of employers who have hired disabled workers find them efficient, faithful, and conscientious in somewhat greater degree than the nondisabled.

Handicapped employees in 3,250 establishments were reported in 290 different occupations. An analysis of thousands of job operations pointed to the conclusion that about 30 percent of them could be performed by an individual with some kind of a physical handicap. While this inference was theoretical, the great number of occupations in which disabled employees were actually found was the basis for the conclusion reached by the investigators that the range of potential occupations for physically disabled persons is very wide.

A partial census in representative districts of 19 California cities covered 153,106 persons in 50,837 homes. Of these persons 4,772, or 3.1 percent, were physically handicapped.

It was estimated that there are 87,500 disabled persons in California between the ages of 15 and 55. Over 7.6 percent of the employees in the service of the State were found to be physically disabled, and California's blind population is approximately 7,000.

⁵ From the Monthly Labor Review for April 1936.

⁶ California Department of Education Bulletin No. 9: Census and Industrial Survey of the Physically Handicapped in California. Sacramento, May 1935. The investigation was under the direction of chief of the State bureau of vocational rehabilitation and was conducted as a State Emergency Relief Administration project.

The conclusion was also reached that trained disabled persons placed on suitable jobs make satisfactory employees, and should be given equal opportunity to work for the maintenance of themselves and their families, with resulting self-respect as useful and productive citizens.



Power Farming and Labor Displacement in the Cotton Belt ¹

This is not a comprehensive report on the present extent, the rate, the ultimate limits, and the full social and economic effects of mechanization of cotton production. It does not present average conditions in the Cotton Belt. It is highly selective. Its observations are intended primarily to point out the *direction* of change in important areas and the labor patterns which are being developed.

The level or gently rolling topography of the western dry cotton area, including western portions of Texas and Oklahoma, is well suited to operations on a larger scale than in the Piedmont and most other sections of the Cotton Belt, and many students of agriculture have long felt that mechanization would run its course first and most completely in this area. Farms are large here. The one-man one-mule methods of older cotton sections with one-half-row cultivator are replaced by four- and six-mule teams with two-row cultivators. Cotton strippers of the sled type were first employed here. However, it is not expected that picker machines of the type now being perfected will be used in the western dry area, because of climate and the growth habits of cotton.² But the displacement anticipated from a mechanized picker is already occurring. It is caused by a complex of forces, of which the latest and now the most active is adoption of the tractor and the four-row cultivator.

The same forces of drought, depression, and power farming which are displacing tenant farmers and laborers in the Texas Panhandle are operating in southwestern Oklahoma and the Mississippi Delta.

The Texas Panhandle

The Texas Panhandle has been scourged by successive years of severe drought and depressed cotton prices. These factors, and even the public measures to relieve rural distress, have profoundly affected the social structure. Now the tractor is adding its impetus to the forces altering the landscape and changing the social scene. The driving force of mechanization, like drought and depression before it, is already expelling families who load all their household possessions and children in the car, and flee half-way across the country. These are not just "croppers," but yeoman farmers—tenants on thirds and fourths; not only Negroes, but white Texans as well.

¹ Abstract of an article by Paul S. Taylor, of the University of California, in the *Monthly Labor Review* for March 1938. A second article, in the April 1938 issue dealt with other sections of the Cotton Belt, in similar manner. Based on researches on the security of agricultural workers in the Cotton Belt (June and July 1937) as consultant, Social Security Board.

² Works Progress Administration, National Research Project, *Mechanical Cotton Picker*, by Roman L. Horne and Eugene G. McKibben. Philadelphia, 1937.

Because the effects of power farming are so clearly evident in this area, Hall and Childress Counties were selected for special study. These counties are located at the extreme southeastern tip of the Texas Panhandle. They lie just below the "cap" rock, and are "Great Plains" country in physical characteristics.

The farms of these counties are operated typically by tenant farmers on thirds and fourths, who own teams and tools, and possess managerial capacity. Two-thirds of the farms (66.7 percent in Hall County and 64.7 percent in Childress County in 1935) are operated by tenants. Only a small minority of the farms (one-eighth in Hall County and one-seventh in Childress County) are operated by sharecroppers, working on halves and furnishing only their own labor and that of their families. Wage laborers have always been few, except during cotton harvest, when most of the crop is harvested (either snapped or picked) by contract labor paid by the hundred-weight.

The permanent population of these counties is almost entirely native American white. During good cotton harvests migratory Mexicans, Negroes, and American whites from north, east, and south Texas, from Oklahoma, and from a few more distant States help to harvest the crop.

Rainfall is undependable. Heavy crop failures have characterized most of the years from 1931 to 1937. In 1934 crops failed on 97,177 acres in Childress County and 79,470 acres in Hall County. During the 5-year period 1925-29 the two counties ginned an annual average of 99,000 bales. During 1930-36 average ginnings dropped to less than one-half, or only 48,500 bales, and as low as 12,500 bales in 1934 and 26,500 bales in 1936.

Economic depression, too, has dealt severe blows to these counties in common with other cotton areas. Between 1931 and 1933, the farm-price index of cotton and cottonseed stood at the unprecedentedly low points of 63, 47, and 64 percent of the pre-war base.

Between 1930 and 1935 farm population declined approximately 24 percent in Hall County and 19 percent in Childress County. The rate of rural decline was even more rapid during the past year or two, according to the scholastic census. With coincidence of severe crop failure and accelerated mechanization, the number of rural scholastics (children aged 6 to 17) fell between 1936 and 1937 by 15 percent in Childress County and by 13.8 percent in Hall County. The number of scholastics in Childress County as a whole decreased 21.5 percent during the 7 years between 1930 and 1937, or an average of approximately 3 percent per year. The decline during 1936 and 1937 in Hall County averaged only 2.6 percent, but would have been larger except for an increase of school children from outside the county in 1936, resulting from the establishment of a veterans' CCC camp at the county seat.

The acceleration in rate of decline under stress of crop failure and spreading mechanization is shown by the fact that the decline in scholastic census, approximating roughly the decline in total population, reached 11 percent in Childress County and 9.6 percent in Hall County during 1937.

School census figures reveal the population movement within the counties during these years. Until 1936 the brunt of depopulation

was borne almost entirely by the rural portions of both counties. The migration of people from the countryside to the towns more than offset the losses of the towns until that date. Now the towns as well as the rural sections are losing population, although at a much slower rate.

Displacement of Animal Power on Farms

Horses and mules had always furnished the motive power on farms in Hall and Childress Counties. Between 1930 and 1935, however, farmers began slowly replacing them with tractors, as a few had done even before 1929 (see table 1). Since 1935, the rate at which farmers have been disposing of their horses and mules has been astonishingly rapid.

TABLE 1.—Number of horses and mules in Childress and Hall Counties, 1930 and 1935

Year	Childress County		Hall County	
	Horses	Mules	Horses	Mules
1930.....	3,175	4,733	3,332	5,771
1935.....	2,847	3,625	2,887	4,614
Loss.....	328	1,108	445	1,157

In Hall County the net loss of horses and mules during the 5 years 1930 to 1935, was 1,602. This represented a decline of 17.5 percent for the entire period, or an average of 3.5 percent per year. According to the Memphis (Tex.) Democrat of February 5, 1937, recent displacement of animal power has been much heavier.

It has been variously estimated by stockmen, farmers, and implement dealers that from 750 to 1,000 mules and horses have been shipped out of Hall County within the past 12 months. Most of the mules are shipped from here to Mississippi and Tennessee, where they are used in industrial farm work.

On the basis of these estimates, the number of horses and mules declined between 10 and 13 percent in a single year, or about treble the average rate of decline during the preceding 5 years. Clearly, the sale of horses and mules off the farms is continuing at an accelerated rate.

Increasing Use of Tractor Power on Farms

The years 1936 and 1937 particularly witnessed rapid increase in the use of tractors in Childress and Hall Counties. No census data are available since 1930, when 94 and 90 farm tractors, respectively, were reported. The annual numbers of tractor sales in Childress were estimated by an implement dealer as follows: 1934-35, 10; 1935-36, 20; 1936-37, 105. Similar estimates for Hall County were: 1935, 100; 1936, 160; 1937, 200. These figures are to be regarded only as indications of trend.

This tremendous acceleration in use of tractors has all come since lighter, cheaper, pneumatic-tired tractors have been placed on the market. Lower cost, lower gasoline and oil consumption, better traction in the sandy soils of Hall and Childress Counties, which resisted

earlier heavy models, freedom of movement on public roads, and the rising cost of feed because of drought, have all played a part. Farmers have been enabled to purchase tractors even after several years of bad crops because they have received Government crop-adjustment checks, and because they can trade in their mules and horses at good prices.

Displacement of Tenant Farmers

The fast-growing use of tractors has caused heavy displacement of tenant farmers. The continuance of tractor purchases will force more off the land. Each managing tenant on thirds who is displaced represents normally the scrapping of a family farm operator. The displacement of sharecropper families, which is likewise occurring, represents displacement of laborers who receive payment on shares in lieu of wages. The "family farms" which remain after mechanization generally are enlarged in acreage and capital equipment, and are more commercialized. On larger holdings, even the "family farm" structure frequently disappears completely, and is replaced by a single large-scale industrialized operation using day laborers.³

Displacement of tenants occurs from several causes whose effective operation is clearly evident and recognized by all classes in Hall and Childress Counties. Among these causes are the following:

1. Landlords, during 1936 and 1937, were increasingly taking over the operation of their own farms as a last measure of defense against loss of ownership. They were impelled to do this by successive years of low prices and of crop shortage caused by drought, which increased the difficulty of meeting taxes and interest on mortgages, which customarily carry a lien on the landlord's quarter of the cotton crop.

2. The use of tractors greatly increases the area which one capable farmer can operate. Their introduction in the interest of economical operation, therefore, is rightly regarded as the major cause of displacement at the time of the study. When tenants purchase tractors they generally double the size of their farms, thus displacing other tenants. But most of the tractors are purchased by landlords, with somewhat higher average displacement resulting.

3. The use of low-paid wage labor instead of tenants to drive tractors is the rule. This is a further measure of economy to landlords. The tenant who is unable to get another farm either becomes unemployed or he accepts employment in the reduced status of wage worker, driving a tractor.

The heavy displacement of tenants was due to all the factors which have been noted, but not to abandonment of farms, for the acreage in farms increased in both Hall and Childress Counties, while tenants were leaving.

No measure of the extent of displacement is available, nor of the force of each separate factor in causation. The exact number already displaced in these two counties is of secondary importance to this report, however. Of primary importance are (1) the potential dis-

³The clear prospect of more extensive mechanization and industrialization of Great Plains agriculture in the Cotton Belt does not imply that no other type of farming will remain. "Undoubtedly mechanization will progress, and where the application of large machinery proves profitable a further concentration of acreage will take place. But the advantages that the perfecting of small-scale machinery may bring will increase the resistance of the medium-sized farms, so that even in the Great Plains they may survive." (National Bureau of Economic Research, Bulletin 67, Nov. 29, 1937, p. 14: Technical Progress and Agricultural Depression.)

placement, within 2 years, of a few hundred tenant families not already moved off who are in imminent danger of loss of their livelihood; and (2) the growth of wage labor and spread of an industrialized labor pattern on larger holdings.

Where Displaced Tenants Go

Alternatives for the displaced tenants are few and bitter. Many go to the towns or move into farmhouses vacated by other displaced tenants, and fall upon WPA or other forms of relief. The movement from farm to town largely explains why the towns have held, or even temporarily increased, their populations during a period of heavy rural depopulation. Some displaced tenants become wage laborers on farms, a sharp decline in status, especially for those who were operating tenants with teams and tools. It appears that few, if any, tenants remain as wage workers to drive tractors on the same farms which they occupied as tenants.

No convincing evidence was received to indicate that tenants are selected for displacement on the basis of inferior ability, or shortness of tenure. The contrary was strongly asserted by many, and backed by specific citation.

Many ex-tenants of Hall and Childress Counties emigrate to Arizona or California, there to work in the cities, or more often on the irrigated farms of those States.

Social Effects of Displacement

The course of tenant displacement manifests itself in a number of ways, some of which have already been discussed. The evidence of displacement is written clearly on the rural landscape, now strewn with abandoned tenants' houses, windows boarded, and fields cultivated close. In the towns, vacant houses are appearing in the moderate-rental districts, and rural slums are being built on the fringes.

Rural merchants and service occupations lose trade and fail. Drought is bad for them, but displacement is their finish. Town merchants, too, who cater to families of small incomes, are losing trade for the same reasons. Rural schools shrink in size and curriculum, teachers are dismissed, and rural churches languish. Mechanization of the farms and bad crops operate like good roads to the detriment of crossroads institutions and merchants.

Tenants who yet retain farms are starkly fearful that they may lose them and suffer the fate of the others. Open class conflict has not yet broken out, but the elements of it are present.

Old-Age Insurance, Retirement, and Assistance

U. S. Bureau of Labor Statistics Bulletin No. 694
Handbook of Labor Statistics: 1941 edition.

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Federal Old-Age Insurance System

Under the original Federal Social Security Act, passed in 1935, a system of Federal old-age benefits was created which covered persons employed in any service performed within the United States, with the exception of agricultural labor, domestic service in a private home, casual labor not in the course of an employer's trade or business, Federal employment, employment for a State or political subdivision, employment as a member of the crew of a vessel, and employment in any organization operated exclusively for religious, charitable, scientific, literary, or educational purposes. Railroad employees are also excluded from the general old-age insurance system, but are covered by a special retirement system (see page 650). Amendments to the act, passed in 1939, extended the coverage to new groups including employees of national banks, State banks which are members of the Federal Reserve System, employees of building and loan associations, and crews of American ships. However, agricultural labor was redefined so as to enlarge the exclusions, and exclusions among domestic servants were also somewhat extended.

The law established an "Old-Age Reserve Account" in the Treasury of the United States, for which an amount sufficient as an annual premium to provide for the payments required should be appropriated for each fiscal year beginning with the fiscal year ending June 30, 1937. By the amendments of 1939 the title of this account was changed to the "Federal Old-Age and Survivors Insurance Trust Fund" and the securities and amounts on the books of the Treasury on January 1, 1940, were made transferable to the trust fund.

Taxes With Respect to Employment

Every regular worker covered by the system is required to pay a fixed percentage of his wages or other remuneration up to a maximum of \$3,000. This tax is deducted from his wages by his employer. An excise tax which is equal to and is calculated on the same basis as that for the employees, is imposed on employers. Under the original law the tax was fixed at 1 percent of wages for the first 3 years, increasing by one-half of 1 percent for each 3-year period until the maximum of 3 percent was reached on January 1, 1949. However, amendments to the act maintained the 1-percent deduction through 1942, after which it will be increased to 2 percent.

Benefits Under the System

As originally enacted, the law provided for retirement payments and lump-sum death benefits only for qualified insured persons with

the maximum benefit payable fixed at \$85 per month. The 1939 amendments radically changed the benefit provisions as, in addition to the primary insurance benefits for insured individuals, the system was extended to cover wives of insured individuals upon reaching the retirement age of 65 years and also provided for benefits for survivors of fully insured individuals, including the widow and dependent children under the age of 18, and, failing such dependents, the dependent parents of such an individual. Lump-sum death benefits were abolished except in the case of individuals leaving no surviving widow, child, or parent who would be entitled to a survivors' benefit.

The primary insurance benefit is equal to 40 percent of the amount of an individual's average monthly wage if such average monthly wage does not exceed \$50, or if it does exceed \$50, 40 percent of \$50, plus 10 percent of the amount by which it exceeds \$50 but does not exceed \$250, and an amount equal to 1 percent of the amount so computed multiplied by the number of years in which \$200 or more of wages were paid to such an individual. The minimum benefit is fixed at \$10. A fully insured individual is defined as one who had not less than one quarter of coverage for each two of the quarters elapsing after 1936, or after reaching the age of 21, whichever is later, and up to but excluding the quarter in which he reached the age of 65 or died, whichever first occurred, and in no case less than 6 quarters of coverage; or at least 40 quarters of coverage.

The wife of an insured individual who is living with her husband and is not herself entitled to primary insurance benefits is entitled upon reaching the age of 65 to receive a wife's insurance benefit equal to one-half of her husband's primary insurance benefit, while every child of a person in receipt of primary insurance benefits, or of one who died a fully and currently insured individual, who is unmarried and has not attained the age of 18, is entitled to a child's insurance benefit equal to one-half the primary benefit.

A widow of a fully insured individual is entitled at age 65 to a widow's insurance benefit equal to three-fourths of the benefit to which her husband was entitled if she was living with her husband at the time of his death, has not remarried, and is not herself entitled to a primary insurance benefit.

Widows' current insurance benefits are payable to every widow of a fully insured person, who has not remarried, has not reached the age of 65, and was living with her husband at the time of his death, if she has in her care a child of the deceased person who is entitled to a child's insurance benefit. This benefit amounts to three-fourths of the benefit to which her husband was entitled.

Benefits amounting to one-half of the primary insurance benefit are payable at age 65 to a dependent parent of a person who died a fully insured individual if he left no widow or unmarried child under the age of 18 entitled to an insurance benefit. A lump-sum death payment amounting to six times the monthly primary insurance benefit of a person who leaves no survivors entitled to a monthly insurance benefit is payable to the nearest relatives of such a person, or if there

are no such heirs to the person or persons who have paid the burial expenses of the deceased to the extent that such persons have paid such expenses.

The following table illustrates the monthly old-age benefits payable under the original and the amended acts.

*Illustrative monthly old-age benefits payable under 1935 provisions of Social Security Act and under 1939 amendments*¹

Period of coverage	1935 act	1939 amendments		1935 act	1939 amendments	
		Without dependents	With 1 dependent		Without dependents	With 1 dependent
	Average monthly wage of \$50			Average monthly wage of \$100		
3 years.....	(?)	\$20.60	\$30.90	(?)	\$25.75	\$38.62
5 years.....	\$15.00	21.00	31.50	\$17.50	26.25	39.37
10 years.....	17.50	22.00	33.00	22.50	27.50	41.25
20 years.....	22.50	24.00	36.00	32.50	30.00	45.00
30 years.....	27.50	26.00	39.00	42.50	32.50	48.75
40 years.....	32.50	28.00	40.00	51.25	35.00	52.50
	Average monthly wage of \$150			Average monthly wage of \$250		
3 years.....	(?)	\$30.90	\$46.35	(?)	\$41.20	\$61.80
5 years.....	\$20.00	31.50	47.25	\$25.00	42.00	63.00
10 years.....	27.50	33.00	49.50	37.50	44.00	66.00
20 years.....	42.50	36.00	54.00	56.25	48.00	72.00
30 years.....	53.75	39.00	58.50	68.75	52.00	78.00
40 years.....	61.25	42.00	63.00	81.25	56.00	84.00

¹ Based on a table presented by A. J. Altmeyer to the Committee on Ways and Means, March 29, 1939 (U. S. House of Representatives, Committee on Ways and Means, Social Security: Hearings Relative to the Social Security Amendments of 1939, vol. 3, p. 2165). It is assumed, with respect to the amendments, that an individual earns at least \$200 in each year in order to be eligible to receive the 1-percent increment. If this were not the case, the benefit would be somewhat lower.

² Monthly benefits not payable until after 5 years of coverage.

Statistics of Operation

Payments certified to the Treasury by the Social Security Board in the calendar year 1940 amounted to nearly \$40,600,000. Of this amount \$28,900,000 were paid for primary, supplementary and survivors' monthly benefits; lump-sum payments amounted to \$8,900,000 under the 1939 amendments to the act; and \$2,800,000 represented lump-sum payments under the provisions of the Social Security Act of 1935.

Nearly 255,000 claims for monthly benefits had been allowed by the end of the year, and the monthly amount payable with respect to such claims prior to any reductions required under the amended act had reached a total of more than \$4,700,000.

Approximately 2,036,000 employers and 31,017,000 employees were covered by the system in the last quarter of 1940, according to preliminary estimates by the Social Security Board. The total taxable wages of these employees amounted to more than \$8,500,000,000.

Retirement System for Railroad Employees

Retirement benefits for railroad employees are provided under a system separate from the Federal Social Security Act. The first Railroad Employees' Retirement Act was passed in 1934 but was held unconstitutional by the United States Supreme Court in May 1935. In August of the same year a new retirement act was passed and a system for financing the pensions by levying taxes on the carriers and the employees was set up under a separate act. The validity of both of these acts was contested by the railroads, and in June 1936 the retirement act was held to be constitutional but the taxing act was declared invalid.

In June 1937 an amendatory retirement act was passed. The act covers all employees of express companies, sleeping-car companies, and railroads subject to the Interstate Commerce Act, and of certain railroad associations and labor organizations. The pension systems formerly operated by the railroads were absorbed in the new system. The administration of the Retirement Act is vested in the Railroad Retirement Board. The Board administers five classes of payments under the acts of 1935 and 1937. These are disability and old-age annuities paid to eligible employees after retirement; survivor annuities paid to the surviving spouse of a deceased employee annuitant; death-benefit annuities paid only under the 1935 act; lump-sum death benefits payable only under the 1937 act to beneficiaries of persons who were employed after December 1, 1936; and pensions paid to employees on the railroad private pension rolls on March 1 and July 1, 1937.

The total payments under the retirement system, cumulative through March 1941, amounted to \$398,771,708. Of this total \$281,147,365 were paid for employee annuities; \$107,163,748 for pensions; \$2,913,450 for survivor annuities; \$2,199,919 for death-benefit annuities; and \$5,347,224 for lump-sum death benefits.

The following table¹ shows the payments certified under the Railroad Retirement Act, by class of benefit, for fiscal years 1937 to 1940, and July 1940 to March 1941.

Number and monthly amount of annuities and pensions in force under the Railroad Retirement Act from 1936-37 to March 1941

Item	Fiscal years ended June 30—				July 1940 to March 1941
	1937	1938	1939	1940	
Employee annuities:					
Number.....	6, 870	62, 586	90, 162	106, 078	115, 543
Amount.....	\$433, 047	\$4, 084, 961	\$5, 895, 234	\$6, 953, 664	\$7, 591, 234
Pensions:					
Number.....		43, 914	39, 500	35, 146	32, 050
Amount.....		\$2, 554, 978	\$2, 305, 770	\$2, 061, 717	\$1, 885, 423
Survivor annuities:					
Number.....	115	807	1, 783	2, 341	2, 663
Amount.....	\$4, 651	\$31, 489	\$61, 239	\$77, 595	\$86, 777
Death-benefit annuities:					
Number.....	238	649	771	725	644
Amount.....	\$8, 916	\$24, 232	\$27, 364	\$26, 182	\$23, 095

¹ The Monthly Review of the Railroad Retirement Board, April 1941.

Federal-State Assistance to Needy Aged

Various forms of public assistance are provided for through grants-in-aid to the States under the Social Security Act. These include old-age assistance plans for needy individuals, aid for dependent children, maternal and child welfare services, including services for crippled children, and aid to the blind. In each of these forms of assistance Federal grants depend upon certain minimum standards of aid and of administration being provided for in the State plans.

The old-age assistance plans are to be distinguished from the Federal Old Age Insurance System (see page 647). The old-age insurance system is supported in part by contributions from employees and is based on previous work experience. The old-age assistance plans are for the relief of older persons who are without means for their own support and are not based at all on previous work experience.

The basic requirements for approval of a State plan for old-age assistance by the Social Security Board are that a plan shall not impose (1) an age requirement of more than 65 years (prior to 1940 the age limit could be as high as 70 years); (2) a residence requirement which excludes any resident of the State who has been a resident for 5 years during the 9 years immediately preceding the application for old-age assistance or more than 1 year of continuous residence immediately before application is made; or (3) a citizenship requirement which excludes any citizen of the United States. Under the Social Security Act, States having an approved plan of old-age assistance receive from the sums appropriated for this purpose an amount each quarter to be used exclusively as old-age assistance under the State plan for each individual 65 years of age and over who is in need of such assistance. Federal aid was first limited to \$15 per individual per month, plus certain appropriations for administration. Under the 1939 amendments to the act this amount was increased to \$20. The amendments also provided that, effective July 1, 1941, State agencies in determining need shall take into consideration any other income and resources of an individual claiming old-age assistance.

All 48 States, Alaska, Hawaii, and the District of Columbia, had approved plans for old-age assistance in operation throughout 1940. Total payments to recipients of old-age assistance for the year 1940 amounted to about \$475,000,000. In the last month of the year payments were being made to nearly 2,100,000 persons.

The accompanying table shows by States the number of recipients, the amount of payments to recipients, the average payment per recipient, and the number of recipients per 1,000 estimated population 65 years and over in January 1941. The State averages show wide variations, from less than \$10 per month in 7 States to more than \$30 per month in 2 States. The average for all States was \$20.49 per month.

Old-age assistance in States with plans approved by the Social Security Board, by State, January 1941

[Source: Social Security Bulletin, March 1941 (p. 44). Data reported by State agencies, corrected to Feb. 15, 1941]

Social Security Board region and State	Number of recipients ¹	Amount of payments to recipients ²	Average payment per recipient	Recipients per 1,000 estimated population 65 years and over ³
Total.....	2, 078, 438	\$42, 585, 136	\$20. 49	4 236
Region I:				
Connecticut.....	17, 493	492, 405	28. 15	137
Maine.....	13, 086	272, 292	20. 81	164
Massachusetts.....	86, 977	2, 514, 613	28. 91	237
New Hampshire.....	6, 673	142, 620	21. 37	139
Rhode Island.....	6, 974	139, 665	20. 03	128
Vermont.....	5, 183	85, 825	16. 56	152
Region II: New York.....	121, 303	3, 034, 018	25. 01	133
Region III:				
Delaware.....	2, 490	28, 431	11. 42	119
New Jersey.....	31, 327	659, 394	21. 05	113
Pennsylvania.....	100, 302	2, 193, 937	21. 87	149
Region IV:				
District of Columbia.....	3, 449	87, 824	25. 46	86
Maryland.....	18, 159	322, 803	17. 78	148
North Carolina.....	36, 988	374, 706	10. 13	4 246
Virginia.....	19, 785	197, 027	9. 96	130
West Virginia.....	18, 515	280, 167	14. 05	4 215
Region V:				
Kentucky.....	54, 134	483, 369	8. 93	287
Michigan.....	78, 721	1, 322, 331	16. 80	239
Ohio.....	134, 548	3, 094, 885	23. 00	252
Region VI:				
Illinois.....	142, 702	3, 169, 888	22. 21	252
Indiana.....	67, 275	1, 222, 298	18. 17	236
Wisconsin.....	53, 485	1, 208, 783	22. 60	221
Region VII:				
Alabama.....	20, 215	185, 903	9. 20	4 171
Florida.....	37, 785	476, 480	12. 61	291
Georgia.....	41, 082	340, 020	8. 28	4 275
Mississippi.....	25, 564	220, 272	8. 62	225
South Carolina.....	17, 304	136, 287	7. 88	4 247
Tennessee.....	40, 173	406, 164	10. 11	4 266
Region VIII:				
Iowa.....	56, 497	1, 172, 997	20. 76	249
Minnesota.....	62, 918	1, 332, 163	21. 17	296
Nebraska.....	28, 550	552, 075	19. 34	269
North Dakota.....	9, 011	151, 562	16. 82	236
South Dakota.....	14, 926	287, 436	19. 26	344
Region IX:				
Arkansas.....	25, 442	199, 032	7. 82	4 296
Kansas.....	28, 149	567, 955	20. 18	4 223
Missouri.....	109, 140	1, 949, 008	17. 86	336
Oklahoma.....	75, 310	1, 346, 048	17. 87	522
Region X:				
Louisiana.....	34, 511	443, 189	12. 84	4 352
New Mexico.....	4, 889	84, 433	17. 27	4 283
Texas.....	120, 863	1, 682, 215	13. 92	350
Region XI:				
Arizona.....	8, 548	239, 622	28. 03	355
Colorado.....	41, 864	1, 451, 991	34. 68	5 460
Idaho.....	9, 123	204, 666	22. 43	287
Montana.....	12, 266	239, 074	19. 49	350
Utah.....	13, 692	309, 484	22. 60	453
Wyoming.....	3, 461	82, 749	23. 91	4 298
Region XII:				
California.....	151, 740	5, 744, 940	37. 86	276
Nevada.....	2, 303	61, 219	26. 58	344
Oregon.....	19, 759	422, 099	21. 36	213
Washington.....	40, 419	921, 613	22. 80	284
Territories:				
Alaska.....	1, 560	44, 128	28. 29	380
Hawaii.....	1, 805	23, 031	12. 76	4 140

¹ Represents recipients of money payments and/or assistance in kind; excludes recipients of medical care, hospitalization, and/or burial only.

² Represents obligations incurred for month from Federal, State, and local funds for money payments and assistance in kind; excludes cost of administration and of medical care, hospitalization, and burial. Allowances for medical care and hospitalization included in money payments are not excluded.

³ Population 65 and over as of Apr. 1, 1940, estimated from 5-percent sample by the U. S. Bureau of the Census.

⁴ Adjusted for payments covering 2 or more eligible individuals.

⁵ Includes \$124,777 incurred for payments to 3,593 persons 60 but under 65 years of age. Rate per 1,000 excludes these recipients.

Care of Aged in Old People's Homes

Various means have been resorted to, in the United States as elsewhere, for caring for old people who are without homes or relatives to support them and those who, possessing means, lack the strength or desire to run an establishment of their own. The almshouse has been a traditional way of caring for destitute (or "paupers" as the phrase formerly was) of all ages. Supported as a public charity, the almshouse or poor farm has always been regarded by self-respecting individuals as a last desperate resort, not to be considered except in extremity, for residence in such an institution generally carried with it a painful social stigma.

The almshouse is gradually disappearing in the United States. Several factors have contributed to this. One has been the gradual public realization that, throwing together as it has, healthy indigents with those afflicted with disease of all degrees of severity, sane persons with insane, senile, feeble-minded, and epileptic, and innocent young children with adults of all degrees of moral rectitude or iniquity, the almshouse is socially undesirable. Its inmates often have had only one characteristic in common—that they were destitute.

Most States began some years ago to remove the feeble-minded and epileptic to other institutions. Likewise, children have been or are being taken from the poorhouses either to institutions specializing in child care or to foster homes. The system of mother's pensions that had been growing as a voluntary State measure for a decade or more before the passage of the Federal Social Security Act, received great impetus under that act and hastened the process of removal of children from almshouses.

The same act, providing for Federally aided State allowances for aged, also had an effect on the elderly population of almshouses. Able-bodied old people whose receipt of the old-age allowance enabled relatives to care for them, or who were able to live independently either alone or in a private boarding home, left the almshouse, and a number of States had already felt the results at the end of the first 2 years of the operation of the social-security system. In a number of cases almshouses were closed. In others the dwindling of the able-bodied population, leaving a larger proportion requiring personal or hospital care, has resulted in a tendency either toward conversion of the almshouse into an infirmary or toward the establishment of new centralized institutions to care for ailing aged.

A third means of care is what are generally termed old people's homes. Some of these are frankly charitable institutions, toward the support of which the resident contributes nothing. Others are philanthropic in the sense that although the guest has contributed either in the form of a fee at time of admission or previously through his dues to the supporting organization, an additional subsidy is necessary to cover the cost of full support. Such homes are distinguished from the almshouses by the fact that they represent private philanthropy (in which the resident himself may be or have been a contributor) as contrasted with public charity. Even the few homes which receive some of their support from city or county authorities require fees from the resident and also benefit by funds from private

philanthropy. In the case of State soldiers' homes, no fees are expected from the soldiers therein but shelter is accorded as a recognition of past services for their country, and this is not regarded as charity. Not only does no social stigma attach to residence in an old people's home, but such is the extent of public acceptance that a large proportion of such homes contain one or more guests who are financially able to maintain themselves elsewhere but prefer the care and companionship available in the home.

Using the above definition of an "old people's home," the Bureau of Labor Statistics in 1939 made a survey of all such homes in the United States which it was able to discover by careful canvass of all possible sources of information. The returns indicated that there were facilities for about 103,000 old people in 1,428 homes throughout the United States.¹

In order to enter an old people's home the applicant must meet certain definite requirements, varying from home to home. Among these the most general are age, sex, financial, membership, and character requirements. Once accepted, in the majority of homes he becomes a "life member," entitled not only to food and shelter for the rest of his life, but also to clothing, laundry, medical and nursing care (even hospital attention in some cases), and burial.

Some homes accept guests only on payment of regular weekly or monthly rates, providing therefor only room and board; and a few provide shelter only (at very low rates), the resident being expected to provide for himself the rest of his subsistence. The greater part of the homes, however, provide complete care.

Generally, the prime entrance requirement is age. Although in the homes reporting the minimum acceptance age ran down as low as 50 years, nearly 25 percent set the entrance age at 60 years, and in slightly over half, the applicant had to be 65 years or older.

Nearly 65 percent of the homes reporting required some contribution from the resident, in the form of a flat sum paid at entrance or specified weekly or monthly rates; some homes took residents on either basis. A few institutions taking life-care residents set the entrance fee in accordance with the life expectancy of the incoming resident. In such cases the fee presumably meets the greater part of the cost of care. Examination of the general level of fees and other financial requirements, however, indicates that in the majority of homes subsidy from some source is necessary. Thus, about one-eighth of the homes undertook life care for fees ranging from \$500 to \$600, and a like proportion charged from \$1,000 to \$2,000. Over two-fifths of the homes operating on a life-care basis required no admission fee whatever.

Number of Persons Provided for

Of 1,543 homes to which questionnaires were sent, 115 had ceased operation since 1929, and 1,428 were in operation in 1939. Returns from 1,339 of the 1,428 active homes indicated a combined capacity of 92,592 in 1939, or an average of 72 persons per home. Applying this average to the nonreporting homes, it would appear that the whole group of homes for aged in the United States offered facilities for the care of some 103,000 old people.

¹The final report of this study, including a directory of homes (giving capacity and entrance requirements), was published as Bureau of Labor Statistics Bulletin No. 677.

A third of the homes reporting had a capacity of fewer than 25 persons, and about three-fifths had accommodations for fewer than 50. Only 6.9 percent could care for 200 or more; this group included the large public homes for aged war veterans. Excluding the veterans' homes, the homes having a capacity of 200 or more formed only 4.5 percent of the total. Individual homes ranged in size from a home with capacity of 3 persons to two veterans' homes with 1,500 capacity each.

To ascertain to what extent use was being made of facilities provided, the questionnaire called for data (as of January 1, 1939) on number of residents by sex, and number of vacancies, in relation to capacity.

There were 1,248 homes furnishing data on all four points—capacity, number of male and female residents, and vacancies. Tabulation of these returns indicates that there were 9,829 vacancies on that date, out of a total capacity of 84,024—or a vacancy rate of 11.7 percent (see table 1). The highest proportions of vacancies were found in the State soldiers' homes and in the fraternal institutions; in both of these, vacancies constituted over one-fifth of the total capacity.

TABLE 1.—Capacity and residents of old people's homes, as of Jan. 1, 1939, by sponsoring organizations

Sponsoring organization	Number of homes reporting	Normal capacity	Residents, Jan. 1, 1939		Vacancies	Vacancy rate (percent)
			Men	Women		
All organizations.....	1, 248	84, 024	30, 899	43, 296	9, 829	11. 7
Federal Government (soldiers' and sailors' homes).....	2	1, 725	1, 597	-----	128	7. 4
State governments:						
Soldiers' homes.....	30	9, 953	6, 252	1, 546	2, 155	21. 6
Other homes.....	10	814	126	607	81	10. 0
County governments.....	1	28	16	8	4	14. 3
City governments.....	4	472	340	119	13	2. 8
Labor organizations.....	3	609	543	26	40	6. 6
Religious denominations.....	221	10, 501	2, 035	7, 539	927	8. 8
Religious philanthropic organizations.....	293	25, 310	9, 445	13, 926	1, 939	7. 7
Fraternal organizations.....	120	12, 125	5, 242	4, 308	2, 575	21. 2
Nationality groups.....	30	1, 707	630	939	138	8. 1
Other organizations.....	83	3, 469	828	2, 236	405	11. 7
Private organizations.....	451	17, 311	3, 845	12, 042	1, 424	-----



Housing of Dependent Aged ¹

An interesting byproduct of the Nation-wide system of old-age assistance has been the emergence of new methods of housing the aged recipients.

In individual cases monthly allowances may run as high as \$30 or more, but the average for the whole country for 1938 was \$19.30. Some beneficiaries have other sources of income with which to supplement their grants, but generally, under legislative limitations, in order to be eligible for old-age assistance the entire income from all sources may not exceed \$30 per month. It is evident, therefore, that the aver-

¹ From the Monthly Labor Review, August 1939.

age allowance is not sufficient by itself to provide, independently, full support for the recipient, let alone any medical care that may be needed. As a result, the homeless single men and women have presented a serious problem to workers in the field of care of the aged.

It has been found, however, that groups of recipients, by pooling their resources, have been able to provide all the necessaries and some additional comforts which none of them would have been able to have alone. Among the new methods of housing are apartments for aged, cooperative houses or resident clubs, boarding homes, and colonies of individual dwellings.

At the 1939 National Conference of Social Work, held at Buffalo, N. Y., it was suggested that present resources for caring for aged could be enlarged through—

(1) The reconditioning of old homes or estates which are available at moderate cost.

(2) The adaptation of institutions formerly used as children's homes (now decreasingly in use, under modern methods of child care). Flexibility of service is especially possible where the cottage system has been used.

(3) Establishment of the eligibility of the aged to assistance under the Federal housing program, but giving preference to reconditioning of old houses rather than to building of new ones.

Apartments for the Aged

The possibilities of apartments as domiciles for aged—whether as part of a normal community of all ages or as limited entirely to aged—has received attention. A speaker at the National Conference on Social Security urged that housing authorities should develop a definite policy of providing a reasonable proportion of apartments expressly for occupancy by aged, "built so that they are convenient, simple and easy to take care of, and possibly on one floor where the aged would not have to climb stairs." The chairman of the New York City Housing Authority pointed out, in this connection, that in the Harlem River Apartments built under the aegis of that authority, 8 of these low-rent apartments are tenanted by old couples receiving old-age assistance.

Tompkins Square Apartments.—The Tompkins Square Apartments occupy a 5-story apartment building donated for the purpose of providing semi-independent living facilities for aged people capable of performing many services for themselves. The building is divided into 1- and 2-room furnished apartments, renting, respectively, for \$20 and \$35 a month. Each apartment is provided with bath, heat, light, running water, and refrigeration. The kitchens are outside the apartments and are so placed as to be shared by 4 apartments each. However, as some tenants do not wish to cook, this is taken into consideration in assigning quarters and it therefore often happens that a given kitchen is actually used only by 1 or 2 residents. For those who do not wish to do their own cooking there is a cafeteria in the building. There is also an automatic elevator, a roof garden, and on the first floor a general living room equipped with radio and recreational facilities.

The building is tax exempt.

The residents include retired teachers, nurses, writers, and others. About one-third of the 60 residents are old-age assistance recipients; the other two-thirds include persons living on insurance annuities and other income, and even some who are doing part-time paid work.

Apartments for aged Hebrews.—The Home for Aged and Infirm Jews, New York, has, it is reported, been considering a somewhat similar apartment plan. The 400-odd residents of the home have included both able-bodied persons and those so infirm as to require hospital or personal care. It is planned to separate these two groups, retaining the infirm in the present building, which will be transformed into a hospital. The able-bodied group will be placed in "boarding-out apartments." The first, experimental, group will consist of six persons living together in a single apartment, which will be in the charge of a competent housekeeper and under the supervision of the home's medical and social-welfare staff. It is emphasized that effort will be made to make the living conditions in the apartment "approximate as closely as possible normal home and neighborhood life, but at the same time the guests will be encouraged to utilize the recreational and occupational advantages of the home."

If this experiment is successful, similar apartments will be taken for the remainder of the able-bodied group. This separation of functions, it is felt, will enable the organization to give more efficient service to both classes of residents.

Cooperative Houses or Clubs

In the State of Washington a number of homes have been started in which recipients of old-age assistance are living on a cooperative basis, each resident paying his share of the household expenses from his monthly allowance and using the remainder for clothing and personal needs. These homes have been utilized especially in the case of single men and women, as well as other persons whose children or relatives are not able to house them or who for other reasons are not sharing family life.

The first such home was started in 1937 by a group of elderly single men who had formerly been sawmill workers but had been stranded as that industry subsided or as their personal skill and physical powers failed. At the time of undertaking the cooperative enterprise they were all recipients of old-age-assistance allowances. In getting their house started, this group of 50 men leaned heavily upon the assistance and advice of the State old-age-assistance representative. In later groups, however, the attempt has been made to obtain a local sponsor. Such sponsors have included fraternal, business, and professional organizations, welfare councils, and the Old Age Pension Union. The sponsorship assures the moral support of the community in the project, provides advice and guidance on the various problems that arise, and is a guaranty against the possibility of degeneration of standards of living in the home. The State Department of Social Security acts only in an advisory capacity.

In getting these houses started, self-sufficiency and self-government are encouraged. Sometimes, however, the sponsor must make a small cash loan to tide over the initial outlay necessary. All such loans

have been repaid, and all the homes are self-supporting. The manager is selected by the members and they also make the rules under which the house is run. It is emphasized that the selection of the manager is very important, as he or she is largely responsible for the degree of success attained.

Entrance into the cooperative arrangement is entirely voluntary on the part of the participant. It is stated that "fear of new things" sometimes makes the elderly person reluctant to enter the cooperative group. Once in, however, group life encourages the regaining of a self-confidence that may have been lost for many years. The aged resident also benefits by the availability of the company of persons of his own age when he wants and needs it, and by the greater physical comforts made possible through group effort, as compared to what he could afford individually, and his health is improved by food of greater variety and better preparation than he previously had.

As such houses are designed for the use of persons retaining a considerable degree of bodily vigor, it is possible also that certain supplementary activities can be engaged in which will bring in some income for the group. Among those considered for the Washington groups were binding of magazines into folders for permanent preservation, on the order of local patrons; raising of dogwood and other ornamental shrubs, for landscaping purposes; and operation of a greenhouse from which to supply potted plants for offices. By the summer of 1939, 10 homes had been started—7 for single aged men, 2 for single aged women, and 1 for unemployable single men under 65 (the age of eligibility for old-age assistance). For the most part these homes have occupied old buildings which could be reconditioned for the purpose. About 200 persons were participating.

Boarding Homes

The facilities for the boarding of aged persons may be divided into three classes: (1) The private nonprofit institution; (2) the private home sheltering one or two aged, in family quarters, as a means of eking out a scanty family income; and (3) the larger establishment caring for pensioners as a business and for profit.

It is recognized that in the absence of proper public supervision such boarding homes might become a menace as bad as or worse than the old almshouses. Some of the operators of homes of the third type mentioned above, it has been found, are former superintendents of almshouses who have gone into the boarding-home business, but at the almshouse level of standards because profit is their main consideration. As the residents' incomes are low, the securing of a profit from their small payments means necessarily a low level of services.

In some States there is no legal authority for public supervision of such homes. In others there is legislation, but adequate supervision is difficult or impossible because of small staffs and limited appropriations. As a result, the problem is becoming serious. Even where the homes are required to have a license, the license has all too often been regarded as an end in itself. It was emphasized that the license should be regarded as a tool of supervision, used to enforce proper standards and withdrawable if these are not provided.

Legislative measures, it was pointed out, should depend upon State conditions. The law should be general enough to insure flexibility in administration but should have enough detail to cover the important points. It should bestow restrictive power upon the enforcing agency.

Colony for Aged

A new form of housing for aged was undertaken in 1936 when a WPA project was approved for Cumberland County, N. J., to provide cottages for recipients of old-age assistance.

A tract of waste land was used which had reverted to the city of Millville many years before because of nonpayment of taxes by the owner. A Federal grant of \$25,000 was used to clear the land and to erect 13 small cottages and a community building. This was followed by a grant of \$5,000 for putting in sewer, water, and gas systems and grading and laying out the streets.

Ground was broken in the spring of 1936, and the colony—named Roosevelt Park—was dedicated in October of the same year. Seven of the cottages were designed for couples and the other 6 for single persons. Thus, the community in 1939 was housing 20 aged persons.

The homes for couples are 20 by 20 feet in size, each having a living room 10 by 12 feet, bedroom 12 by 8 feet, kitchen 8 by 7 feet, and bathroom 5 by 5 feet, closets, and front and rear porches. The houses for single persons are slightly smaller, with the same number of rooms except that a cooking alcove replaces the full-size kitchen. The single homes, also, have no rear porch. Each house is equipped with gas stove, kitchen range for both cooking and heating in the winter, electricity, and sewer system. All of the houses are painted cream and white inside, and white with green trim on the outside. The shingles are fireproof. Each house is named for a flower. The double dwellings rent for \$7 per month, the single ones for \$5.

All of the residents are persons receiving either old-age assistance (averaging in New Jersey about \$15–\$19 per person per month) or war pensions. Some of them were property owners before the depression and several were fairly well off. Now, after paying rent of \$5 or \$7 per month, the resident must make the remainder of his small monthly allowance cover cost of food, clothing, and incidentals, and pay his utility bills (except electricity, which is furnished).

The colony is under the direction of a board of 15 directors, of whom 5 are elected every 3 years. The actual manager is the originator of the colony—a social worker formerly on the staff of the county welfare board—who lives in the community house and directs the community activities. The community building contains, in addition to her apartment, an assembly room 25 feet long, equipped with piano, easy chairs, reading matter, and games.



Almshouses in Relation to the Social-Security Program¹

A detailed study of the condition of the almshouses and their population in Tennessee, made by the University of Tennessee,² also

¹From Monthly Labor Review, September 1938 (p. 518).

²University of Tennessee. School of Business Administration. Almshouse Policies and Almshouse Care of the Indigent in Tennessee. Knoxville, 1938.

covered the effect of the social-security program upon almshouses not only in Tennessee but also upon those in other States.³

Almshouses in Tennessee

It was found that between March 1, 1937 (when the social-security program was introduced in Tennessee), and November 15 of the same year 944 persons were discharged from county almshouses. Of these, 34 percent received old-age pensions, 1 percent blind pensions, and 6 percent children's aid. Altogether 389 former inmates were therefore receiving assistance under the social-security program. In addition, 762 persons still in these institutions were eligible for benefits. As the total almshouse population in November 1937 was 2,608, it is evident that the program of public assistance should materially reduce this population.

The survey indicated that there would remain 1,855 persons not eligible for old-age assistance. Many of these, however, were so ill physically or mentally as to need care of a quality superior to that which could be provided in private homes or which was provided in the county institutions.

The report recognized the possibility of an increase in the number of "marginal persons" in need of public support, through the raising of industrial standards by the unemployment-compensation and old-age pension acts and workmen's compensation laws. This, however, it was felt, should be more than counterbalanced—after a period of, say, 10 years—by the effects of the service to children and the emphasis on prevention of social problems at their source.

The report recommended:

1. Expansion of special facilities for care of insane and feeble-minded.
2. Reorganization of the better almshouses into institutions for care of chronic-illness cases.
3. Closing of almshouses with fewer than 10 inmates and coordination of the facilities of several counties in the support of regional hospitals.
4. Intensified work in prevention of spread of feeble-mindedness and insanity, and in programs for rehabilitation.

Effect Upon Almshouses in Other States

The returns from the other States indicated that the effect of the program was greatest where the almshouses were still caring for children, the mentally and physically disabled, and the aged, as well as for able-bodied indigents. In the States where special systems of care had been developed for certain of these classes the almshouses had gradually been transformed into infirmaries caring for chronic cases which would continue to need institutional care under the social-security program; the program had therefore had little effect in these States in reducing the number of almshouse inmates. In a number of cases social assistance had, however, hastened the trend

³ For a review of a special study of almshouses in Missouri, see Monthly Labor Review, January 1939 (p. 67).

toward this specialized use of the almshouses as infirmaries and had focused public attention on the problem.

States reporting reductions.—A noticeable reduction was reported by 16 States.⁴

In Alabama, where 62 percent were 65 years of age or over and thus eligible for old-age assistance, 45 of the 61 almshouses had been closed by August 1937, several more were closed between that time and the beginning of 1938, and others were to be abolished.

Arizona expected the immediate removal of about 150 persons in the 3 counties maintaining combination hospitals and almshouses, and that ultimately the almshouse population would be "greatly reduced."

During the period from 1935 to February 1937 the number of county almshouses in Colorado had been reduced from 25 to 21 and the institutional population from 640 to 382, or slightly over 40 percent.

In Connecticut, although the almshouse population had been only slightly reduced, there were some 3,000 children receiving mother's aid, many of whom would undoubtedly be almshouse inmates in the absence of such aid.

The 21 county almshouses in the State of Florida in June 1937 had 305 aged inmates, of whom all but 53 (needing institutional care) were eligible for old-age assistance.

Between January and December 1937, 10 of the county almshouses in Georgia were closed.

By June 1937, 598 persons had been removed from Indiana county infirmaries and others were expected to be removed when the eligibility age limit was lowered to 65 years in July 1938. There was no move toward closing the county institutions, as these already were operated more as infirmaries than almshouses and the need for a certain amount of such institutional care would remain.

In North Carolina there had been little reduction in almshouse inmates, but it was expected that several institutions would be closed altogether and the population in others somewhat reduced.

In Ohio 1,500 persons had been removed to private boarding homes licensed by the State. Few county homes remained.

There were 477 inmates eligible for old-age assistance in Oklahoma, but only 277 were approved for discharge, as the others needed nursing care to an extent that could not be provided in private homes for the maximum \$30 allowed under the State law. Only 2 county homes had been closed; the others were being encouraged to concentrate on the provision of hospital and infirmary care.

All the almshouses in Pennsylvania were abolished January 1, 1938, their duties being taken over by county institutional districts which would provide modified hospital care for persons who could not be provided for otherwise.

Only three Utah counties had infirmaries, and these were mainly for the care of the indigent disabled. At the beginning of the security program, all of the eligibles were immediately removed.

In Washington many elderly inmates had left the county homes in order to obtain the pension. Three of the 20 almshouses had been closed, and others were being transformed into institutions for care of persons bedridden or otherwise disabled.

⁴Alabama, Arizona, Colorado, Connecticut, Florida, Georgia, Indiana, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Washington, West Virginia, and Wyoming.

Between October 1935 and July 1937 the number of county almshouses in West Virginia declined from 51 to 43, and the number of inmates from 1,330 to 1,082, or 18 percent.

A 15-percent reduction in almshouse inmates was reported by Wyoming.

States reporting little effect.—Very little reduction in almshouse population was reported in 16 States.⁵ This was attributed, in California, Massachusetts, Missouri, New York, Virginia, and Wisconsin, to the fact that the States had already reduced the almshouse population to those in need of institutional care.

The small reductions in Arkansas and Mississippi were attributed to the inadequate old-age assistance, and in Arkansas also to the fact that under the law of that State an inmate must leave the institution before applying and 45 days must elapse before he is eligible to receive the first payment.

In Idaho only 8 inmates had been discharged in order to receive the old-age pension. Illinois reported that there had been no reduction and it was not believed there would be any. In Maryland only 31 almshouse inmates had received old-age grants up to October 20, 1937, but officials were of the opinion that without the social-security program the almshouse population would have greatly increased. Only 147 of a total of 7,840 old-age beneficiaries in Michigan had come from institutions either public or private.

In South Dakota, of 344 inmates, 234 were over 65, but only 44 were granted pensions. Twenty-four of the 27 counties with almshouses expressed a definite intention to continue the operation of these institutions.

Wisconsin reported that from 250 to 300 persons were transferred to the old-age assistance rolls in the first few months of the new program. However, recently the numbers entering the county homes had outnumbered those in the outward flow.

States with increase in almshouse population.—Several States noted an established or expected increase in almshouse population or the return of inmates discharged on pension. In Alabama, where a noteworthy record of placement in private homes had been achieved, it was expected that some so placed would desire to return, the families might tire of them, or the increasing infirmities of age would necessitate hospitalization. In Arkansas a few had already returned because they found it impossible to support themselves on the small old-age grants.

California reported that 1,241 (18.6 percent) of the old-age assistance cases closed had been admitted to public institutions; and Michigan reported 180 (2 percent) of such cases.

Increases in total almshouse population were reported in Delaware and New York. In Delaware the number of persons in the State Welfare Home rose nearly 13 percent from 1933 to 1937, and there was in addition a waiting list of 35 persons. New York had had a 50-percent increase in "public homes" population since the first old-age pension act went into effect in that State in 1931.

The New Jersey authorities expected an increase in the almshouse facilities, but for the purpose of providing hospital care, not as places for indiscriminate placement of indigents.

⁵ Arkansas, California, Idaho, Illinois, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Dakota, Rhode Island, South Dakota, Virginia, and Wisconsin.

Other States.—No information was available at the time of the survey for the States of Iowa, Kansas, Maine, Minnesota, or South Carolina. In Kansas the officials expected many almshouses would be closed, and in Minnesota it was expected the almshouse population would be reduced "to some degree."

New Mexico had never had the almshouse system.



Pension Plans of Protestant Churches ¹

Approximately 26 percent of the Protestant ministers of the United States are covered by social-security plans of their churches, according to a report issued in 1939.² Lay employees of such churches are not covered to any great extent.

In March 1939 an inquiry was made of member bodies of the Conference of Church Pension Funds by the Federal Council of the Churches of Christ in America, relative to the extent of actual coverage of church employees by the private funds created for their security in old age. Thirteen of the Conference member bodies appeared to have well-established contributory pension plans for the ministers of their denominations; 4 had plans which had been established in recent years; 3 had plans in preparation; 3 had no such plans (1 gives aid based on need); and for 1 no information was given.

The extent of coverage reported by the pension boards varied greatly. Three pension funds covered 100 percent of their active ordained ministers; two covered 60 percent; one each covered 98 percent (of the "eligible"), 89.5 percent, 55 percent, 52.6 percent, 43 percent, 40 percent, 33 percent (of the "eligible"), 25 percent (of the "active"), and 4.7 percent.

In most denominations, the actual pension payments were much less than the maximum amounts provided for in the plans. Only 11 of the pension boards reported "normal" or average payments, the highest normal payment being \$963, the next highest \$500, and the lowest \$200. The median was \$400.

In the contributory pension plans the apportionment of the cost between the church and the individual differed. The most common provision seemed to be for contributions of 2½ percent of the salary by the individual minister and 7½ percent by the church, but 2½ and 8, 3 and 3, 3 and 5, 4 and 4, 5 and 5 percent, as well as 7½ percent by the church alone, were reported by the established funds. The lowest aggregate cost reported was 6 percent, and the highest, 10½ percent.

Pension Plans for Lay Employees

Old-age pensions for all lay employees were offered by 4 of the 24 member bodies of the Conference of Church Pension Funds.

Employees' pension funds had been established by several church publishing houses and some other organizations; but usually secretarial personnel, office-building employees, janitors, and local-church lay employees were not covered.

¹ From the Monthly Labor Review for March 1940.

² Data are from Federal Council of the Churches of Christ in America, Department of Research and Education, Information Service, New York, December 30, 1939; New York Times, December 27, 1939.

Older Worker in Industry

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The Older Worker in Industry

During the industrial depression of the 1930's the problem of the older worker became of grave importance. Increasing charges that older workers were being relegated to the scrap heap gave rise to repeated demands for the actual facts underlying these charges. Surveys made to get at the roots of these charges included inquiry concerning the age distribution of the population, the sex, occupational and employment status, duration of unemployment, and difficulties of reemployment of older workers; their relative efficiency, versatility, productivity, proneness to accident and illness; education, training, and skills; the attitudes and practices of employers, insurance companies, and government on the matter of hiring elderly employees; new techniques for getting jobs for such employees; and other measures for dealing with the older-worker problem, which, one of the investigating bodies declared, is only a part of the enormous puzzle of unemployment.

Among the significant findings on the subject of the older worker in the depression years are those contained in the reports of the Massachusetts Department of Labor and Industries; the report of the Committee on Employment Problems of Older Workers, appointed by the United States Secretary of Labor; and the final report of the New York State Joint Legislative Committee on Discrimination in Employment of the Middle Aged. Summaries of these and other investigations of an authoritative character are presented in this section.

Under the defense program, however, job opportunities for older workers have multiplied, as indicated by recent Work Projects Administration surveys, by the placement records of the Federal Social Security Board, by the reduction in the number of persons applying for Federal old-age insurance benefits, and by the suspension of such benefits for a considerable number of older people returning to the ranks of labor. Furthermore, the age limits for various Federal civil-service examinations have been lifted, and legislation has been passed permitting the War and Navy Departments and the Federal Investigation Bureau to call back civil-service employees who have been retired for age.



Employment Problems of Older Workers ¹

A Committee on Employment Problems of Older Workers ² was appointed by the Secretary of Labor in 1938. The committee, of which Harry Woodburn Chase, chancellor of New York University, was chairman, had no funds for first-hand field investigations, but it did analyze and correlate the very considerable available information. Findings from the committee's report are given below.

¹ From the Monthly Labor Review for May 1939.

² U. S. Department of Labor. Division of Labor Standards. Labor Standards (Washington), March 1939.

The 1937 Unemployment Census disclosed that unemployment was most extensive in the 20-24 age group. The committee did not wish in any way to minimize that problem. However, it had been appointed to study the problem of older workers, and the 1937 Unemployment Census furnished ample evidence of "a serious situation—an increasingly serious one—among persons over 45." The following table taken from the Unemployment Census of 1937 shows the mounting rate of unemployment for the older groups.

Percent of nonfarm workers totally unemployed or employed on emergency work, 1937

Age group	Males	Females	Both sexes
All ages.....	19.4	24.7	21.0
20-24 years.....	25.2	24.1	24.7
25-29 years.....	16.3	19.5	17.4
30-34 years.....	13.8	20.0	15.7
35-39 years.....	14.0	22.4	16.4
40-44 years.....	15.0	23.3	17.0
45-49 years.....	16.7	24.1	18.4
50-54 years.....	18.4	23.5	19.4
55-59 years.....	22.2	26.2	22.9
60-64 years.....	23.5	24.0	23.7

As other studies have indicated, the unemployment of older workers is likely to be a great deal more prolonged than that of workers in the younger age groups.

Unthinking acceptance of the idea that workers of 40 or over are less desirable than younger workers has created a serious situation. An examination of factual data on productivity, accident, sickness, group insurance, and pension plans, has led us to the conclusion that there is little significant relationship between age and costs, and that the prejudice against hiring older workers rests largely on inadequate and erroneous impressions.

Productivity

The available productivity records were too incomplete and too scattered to constitute a basis for any general conclusion concerning older workers. However, none of the records analyzed (drawn from several wholly different classes of skilled work) indicated a diminution in earning power with advancing years. In fact, in certain cases the productivity of older employees was higher than that of younger workers. In occupations calling primarily for physical strength and endurance, age may make an employee less useful, but the age at which impairment begins varies greatly among different persons, and an arbitrary age limit would be an injustice to many. The committee found no evidence that would support, and much that would invalidate, a wholesale prejudice against older employees based on age alone.

Considerations of Cost

*Accident-compensation costs.*³—Most of the occupational-accident information available in the United States, and a 4-year investigation of this subject by the Swiss National Accident Fund, indicate that older workers do not have so many accidents as younger workers, although these fewer accidents are of greater severity. These two

³For data on accidents to older workers, see article "Relation of Age to Industrial Injuries" in Industrial Accident section of this Handbook.

trends offset each other "so that the net cost is about the same throughout the age range." The fact that numbers of industrial-accident insurance carriers, in computing workmen's-compensation premiums, disregard the age distribution of the workers insured and have not considered such distribution important enough to develop experience tables on an age basis, is an additional indication that discrimination against older workers on this score is not justifiable.

Group insurance.—The employers' quota of the cost of group life insurance is usually so slight that, in the estimation of the committee, it should not have any influence on the fixing of hiring-age limits. Although premiums will vary with the age distribution of the personnel, insofar as the cost concerns the employer this matter can be met by raising the amount paid by the workers or by introducing age-group differentials in the workers' rates of contribution. "Certainly any adjustment in the rate is preferable to reducing cost by a hiring-age limit."

Pension plans.—In general, private pension schemes have been regarded as offering an inducement to cut down costs by not taking on older workers. It is, however, quite practicable to establish these schemes so that they do not operate in this way.

The committee recommended that private plans be adjusted to do away with minimum service requirements and limitations on age at entrance, thereby eliminating age as a controlling factor.

Government Policy

The committee strongly recommended that the United States Civil Service Commission and Federal appointing officers eliminate age limits for entrance into Government service, except for positions which call for physical strength and endurance. "Although the Government provides a larger share of employment for older workers than private industry, nevertheless, the practice of setting age limits in public employment does constitute an artificial and unjustifiable limitation and does set an undesirable example to private industry." The committee urges that appointments and reinstatements to Government positions be based solely on qualifications regardless of age.

The Government's retirement system should either be absorbed into the old-age insurance provided by the Federal Social Security Act, so that credits could be transferable between public and private employment, or else provision should be made under the Social Security Act or otherwise for those who enter the Federal service too late to complete the 15 years of service required to qualify for pension rights under the Civil Service Retirement Act. In either case the 15-years-service rule would no longer be necessary, and one important reason for limitations on age at entering public service could be eliminated.

These same recommendations apply to the State and municipal civil-service systems.

Developing Employment Service facilities.—The committee recommends that the United States Employment Service make a study of the opportunities for work in a particular community or group of firms, to ascertain the jobs or kind of jobs most suitable for middle-aged workers. Special attention should be given to the qualifications, experience, and aptitudes of middle-aged persons seeking employment. When necessary, this agency should be in a position to offer applicants training facilities that would make it possible for them to adapt their skills and techniques to new job opportunities.

Conclusion

Based on the information submitted, the committee felt that prejudice against taking on older workers seems to result mainly from insufficient or inaccurate data. "It is not true that 'workers are through after 40,' and everything possible should be done to dispel this idea."

Employers who have previously adopted hiring-age limits were urged by the committee to give up this practice. It was also urged that those employers whose hiring policies have been influenced by a preference for youth to the extent of refusing to hire applicants over 40 should reconsider the basis of this preference in the light of this report, and study their production procedures and work methods in order to find out what occupations older workers may suitably follow.

Finally, the committee called attention to the fact that employees themselves can aid in breaking down the prejudices against older workers and that in some cases the problem has been successfully handled through trade-union contracts. In connection with such a solution full cooperation between unions and managements was recommended.



Discrimination in the Employment of Older Workers in Massachusetts ¹

Massachusetts wage earners, complaining that employers refuse jobs to middle-aged workers, called upon the General Court at its sessions of 1934, 1935, 1936, and 1937 to find remedies for this alleged discrimination. The employment status of these mature workers at the time when the demands for legal protection reached a focus can be appraised with the help of data gathered in the State-wide census of unemployment made in Massachusetts in January 1934 (table 1). One-fourth of the men and one-fifth of the women 45 to 64 years old were unable to find the gainful employment which they sought at that time. It is true that young persons not yet 20 years old had even less success in finding work, and that relays of these idle youths increased the percentages of unemployment of workers 20 to 44 years old in 1934 to an even greater rate than that of workers 45 to 64 years old. However, it is probable that the depression caused greater unhappiness for the older than for the younger men and women. The former had lost positions in which they felt securely established and a high proportion were supporting family dependents. Many of the young persons had never obtained regular employment. The younger men quickly exhausted their resources and required the aid of temporary Government work, but the older men had accumulated property and savings which they used before becoming eligible for this assistance. Thus, 23.2 percent of the men 20 to 44 years old had temporary Government work in 1934, but this assistance was given to only 20.9 percent of the men 45 to 65 years old.

Success of the men and women in finding work when they were in the age groups 45 to 64 is not readily comparable, because a high

¹ Abstract of an article by Lucile Eaves, professor emerita, Simmons College, Boston, in the *Monthly Labor Review* for June 1937. Statistical data presented in this article were taken chiefly from reports of investigations conducted by Roswell F. Phelps, director of statistics, of the Massachusetts Department of Labor and Industries.

proportion of the women were not seeking employment. Thus, in 1934 there were 95 men to every 100 women in the ages between 45 and 64, but there were at this time 436 of these older men to every 100 of the women who were seeking employment. This lack of competition seems to have given the older women some advantage.

TABLE 1.—*Percent of Massachusetts employable workers who were unemployed in January 1934, by age groups*

Age group	Percent of employable workers unemployed ¹			Age group	Percent of employable workers unemployed ¹		
	Total	Males	Females		Total	Males	Females
14 years.....	52.3	51.7	52.9	35 to 39 years.....	19.5	20.7	15.9
15 years.....	60.8	62.4	59.7	40 to 44 years.....	20.0	20.9	16.7
16 years.....	63.6	66.1	60.9	45 to 49 years.....	22.0	22.8	19.0
17 years.....	56.6	61.5	51.3	50 to 54 years.....	23.3	24.1	19.9
18 years.....	51.2	56.3	45.7	55 to 59 years.....	25.6	26.3	21.9
19 years.....	45.5	50.2	40.0	60 to 64 years.....	27.2	28.4	20.7
20 years.....	38.4	43.5	32.4	65 to 69 years.....	29.8	31.2	21.0
21 to 24 years.....	28.2	33.7	21.2	70 years and over.....	24.8	26.3	14.3
25 to 29 years.....	21.0	25.0	13.9	All ages reported.....	25.2	26.6	21.7
30 to 34 years.....	19.0	21.0	13.7				

¹ These percentages show unemployment of women seeking opportunities to earn. A much higher proportion of men seek gainful employment.

Data from Report on the Census of Unemployment in Massachusetts, as of Jan. 2, 1934.

The Department of Labor and Industries was instructed to make an investigation regarding discrimination against the older workers and to recommend a bill to the 1936 session of the General Court. Between September 27 and December 2, 1935, 14 public hearings and 2 conferences were held in important industrial centers of the State. A preliminary report was submitted to the speaker of the house on April 21, 1936. Investigations were continued by the Department of Labor and Industries, and extracts from its final report were presented in support of house bill 33 of the session of 1937.

Testimony Presented at the Public Hearings

The greater part of the testimony presented in the hearings consisted of depressing repetitions of complaints that workers over 45 years old were refused employment without an opportunity to demonstrate efficiency. Discrimination appeared to be greatest when work was seasonal or temporary, with opportunities for frequent separations and rehiring. Thus, members of the building trades, particularly painters and carpenters, complained that they suffered not only from the general inactivity in construction, but also from marked unwillingness to engage the older workers. Their officials were particularly bitter about the refusal to employ older men on Federal building projects.

Testimony of Members of the General Court

One or more members of the General Court usually appeared at the hearings to tell of observations which confirmed the testimony of trade-union officials. They had received numerous personal appeals for assistance and could tell harrowing tales of individual cases of special hardship.

Repeated charges that discrimination is promoted by the demands made by insurance companies carrying workmen's compensation were refuted by J. W. Downs, counsel for the Insurance Federation of Massachusetts. He pointed out that premiums are adjusted to the hazards of the industries and are based on pay rolls without regard to the ages of the employees.

The secretary of the Boston Retail Trade Board and employment manager of one of the largest department stores told of the generous treatment given older workers by Boston mercantile establishments. However, it was admitted that the chain stores gave work to very few older employees.

Investigation by Department of Labor and Industries

The body of information gathered by means of the questionnaire of the Massachusetts Department of Labor and Industries represents the male workers of the State more accurately than the woman workers. This is particularly true of the data describing experiences of those in the older age groups: 31.6 percent of the employable men but only 18 percent of the employable women 45 years old and over were in the establishments from which reports were obtained.

The 1930 census reported less than half (47.3 percent) of the male gainful workers and less than a third (31.2 percent) of the female gainful workers engaged in manufacturing and mechanical industries. In the reports from employing establishments three-fourths of the men (74.6 percent) and women (76.6 percent) were found in factories. Women were employed as teachers, private-duty nurses, office clerical help and in many forms of domestic and personal services which could not be covered in the investigation.

The proportions of older men and women in the sample studied correspond more closely with that of the entire State than the occupational distribution. The 1934 census reported 36.5 percent of the employable men and 20 percent of the women in the age groups of 45 years and above. If it is assumed that workers are to retire at 65 when they become eligible for old-age assistance or for social-security pensions, then 31.3 percent of the men and 18 percent of the women are in need of employment when 45 to 64 years old. The 3,781 establishments of the sample group were employing 35.8 percent of men 45 years old and over in October 1935.

Discrimination in Manufacturing Establishments

One-fourth of the manufacturing establishments from which questionnaires were received reported over 36 percent of their male workers to be 45 years old or over and more than half (51.8 percent) had 31 or greater percentages of these older men in their employ. These percentages conceal surprising variations both between the employing groups of the sample gathered for the investigation of discrimination in employment, and also between industrial centers covered by the census of unemployment. Thus, the percentages of older men in manufacturing establishments varied from 53.3 in silverware and plated ware to 7.1 in radio apparatus, and those of women from 39.5 in paper and wood pulp to 1.1 in radio apparatus (tables 2 and 3).

TABLE 2.—*Distribution of men 45 years old or over employed in Massachusetts manufacturing establishments, October 1935*

Industry	Number of establishments reporting	Number of men employed	Men 45 years old or over	
			Number	Percent
All industries.....	2, 901	306, 295	103, 231	33. 7
Silverware and plated ware.....	13	1, 172	625	53. 3
Textile machinery and parts.....	47	8, 356	3, 667	43. 9
Steam and hot-water heating apparatus.....	13	1, 681	732	43. 5
Tools.....	11	1, 533	653	42. 6
Paper and wood pulp.....	51	7, 333	3, 107	42. 4
Foundry and machine-shop products.....	153	13, 799	5, 721	41. 5
Sugar refining.....	2	1, 247	509	40. 8
Wire work not elsewhere classified.....	12	859	340	39. 6
Wire drawn from purchased rods.....	10	6, 258	2, 459	39. 3
Machine tool accessories.....	14	2, 184	857	39. 2
Cordage and twine.....	10	1, 106	423	38. 2
Forgings, iron and steel.....	5	1, 160	438	37. 8
Cutlery and edge tools.....	22	1, 526	574	37. 6
Boots and shoes.....	183	24, 371	9, 159	37. 6
Machine tools.....	12	2, 077	766	36. 9
Boot and shoe findings.....	77	3, 013	1, 097	36. 4
Woolen goods.....	49	20, 399	7, 404	36. 3
Liquors, malt.....	11	1, 111	403	36. 3
Jewelry.....	44	2, 875	1, 040	36. 2
Abrasive wheels.....	10	2, 853	1, 034	36. 2
Clothing, men's.....	58	2, 146	758	35. 3
Boot and shoe cut stock.....	48	1, 472	514	34. 9
Printing and publishing, newspapers and periodicals.....	54	6, 675	2, 303	34. 5
Leather, tanned, curried, and finished.....	61	9, 617	3, 289	34. 2
Cotton goods.....	74	26, 414	8, 892	33. 7
Envelopes.....	14	1, 019	341	33. 5
Furniture.....	100	4, 584	1, 525	33. 3
Sporting and athletic goods.....	9	1, 251	414	33. 1
Paper goods.....	35	2, 912	960	33. 0
Carpets and rugs, wool.....	5	1, 648	541	32. 8
Cotton small wares.....	24	1, 311	422	32. 2
Nonferrous metal alloys and products.....	17	1, 082	348	32. 2
Printing and publishing, book and job.....	119	4, 508	1, 453	32. 2
Meat packing, wholesale.....	16	2, 920	934	32. 0
Chocolate and cocoa products.....	4	820	261	31. 8
Bookbinding and blank book making.....	29	1, 119	352	31. 5
Silk and rayon goods.....	26	3, 484	1, 095	31. 4
Dyeing and finishing textiles.....	48	9, 740	3, 048	31. 3
Clocks and watches.....	8	1, 890	591	31. 3
Stoves, ranges, and warm-air furnaces.....	10	3, 137	983	31. 3
Lithographing.....	8	738	227	31. 0
Stationery goods.....	7	531	164	30. 9
Electrical machinery, apparatus, and supplies.....	41	15, 734	4, 846	30. 8
Clothing, women's.....	117	1, 151	353	30. 7
Carriages and sleds, children's.....	9	1, 210	366	30. 2
Worsted goods.....	35	10, 564	3, 157	29. 9
Clothing, work, men's.....	19	421	125	29. 7
Confectionery.....	39	1, 597	473	29. 6
Soap.....	5	1, 860	547	29. 4
Stamped and pressed metal products.....	23	958	279	29. 1
Optical goods.....	10	2, 608	750	28. 8
Jute goods.....	2	1, 350	384	28. 4
Chemicals.....	5	2, 568	728	28. 3
Boots and shoes, rubber.....	4	4, 124	1, 146	27. 8
Hats, wool-felt.....	2	744	206	27. 7
Rubber goods, other than boots and shoes.....	28	4, 578	1, 254	27. 4
Screw-machine products.....	13	1, 307	342	26. 2
Ship and boat building, steel and wooden.....	10	6, 684	1, 741	26. 0
Druggists' preparations.....	8	763	197	25. 8
Motor-vehicle bodies and parts.....	9	799	202	25. 3
Knit goods.....	43	2, 301	566	24. 6
Linen goods.....	3	412	96	23. 3
Boxes, paper.....	62	2, 608	592	22. 7
Miscellaneous articles.....	15	622	141	22. 7
Petroleum refining.....	6	1, 990	420	21. 1
Shirts, men's.....	7	158	33	20. 9
Bread and other bakery products.....	110	7, 746	1, 449	18. 7
Housefurnishing goods.....	34	464	82	17. 7
Furnishing goods, men's.....	17	191	31	16. 2
Motor vehicles.....	3	1, 360	197	14. 5
Toys, games, playground equipment.....	12	1, 112	148	13. 3
Pocketbooks and purses.....	10	370	37	10. 0
Radio apparatus.....	4	326	23	7. 1
All other manufactures ¹	673	33, 684	11, 897	35. 3

¹ Includes industries in which less than 1,000 persons were employed and those industries for which data cannot be given separately without disclosing the returns for individual establishments.

Detailed field studies would be required to discover explanations for the low percentages of older workers employed in half of these establishments. Apparently adjustments could be made in many establishments without sacrifice of efficiency if they were demanded by public opinion or by seniority regulations of strong trade-unions.

Further confirmation of this evidence of needless discrimination in manufacturing establishments is found in the fact that 230 factories had no male employees 45 years old or over, 137 had less than 10 percent, and 434 had 10 percent and less than 20 percent; thus 27.6 percent failed to reach a quota 11 percent less than that needed to give employment to healthy men seeking work when 45 to 64 years old, and 16 percent less than the employable men in the general population who were 45 years old or over in 1930. On the other hand, the percentages of older men found employed in the leather-shoe industries and woolen mills do not indicate that the bitter complaints of their representatives at the hearings were justified.

The inconsistent treatment of older men in industry groups other than manufacturing indicates a general need for the arousing of public opinion for the enforcement of more considerate policies in dealing with the employment needs of older workers.

The percentages of older women employed in Massachusetts manufacturing establishments were so small that doubts may be raised as to whether they always reported their ages accurately. The paper and wood-pulp industry made the best showing in the proportion of older women given work. It employed 2,178 women, of whom 861 or 39.5 percent were 45 years old and over. On the other hand, the reports from establishments manufacturing women's clothing confirmed the charges made in the public hearings, as only 9.1 percent of the 6,364 woman workers were in the older age groups. The textile and boot and shoe industries, in which the largest groups of women were employed, made better records—20.2 percent for boots and shoes, 22.7 percent for woolen mills, and 17.5 percent for cotton mills.

TABLE 3.—*Women 45 years old and over employed in Massachusetts manufacturing establishments, October 1935*

Industry	Number of establishments reporting	Number of women employed	Women 45 years old and over	
			Number	Percent
All industries.....	2,640	151,017	21,827	14.5
Paper and wood pulp.....	44	2,178	861	39.5
Woolen goods.....	48	9,447	2,145	22.7
Forgings, iron and steel.....	5	32	7	21.9
Clothing, work, men's.....	19	1,058	226	21.4
Printing and publishing, book and job.....	116	2,362	496	21.0
Boots and shoes.....	184	17,934	3,631	20.2
Printing and publishing, newspapers and periodicals.....	54	1,002	196	19.6
Jewelry.....	46	1,467	286	19.5
Hats, wool-felt.....	2	266	52	19.5
Boot and shoe, cut stock.....	41	386	75	19.4
Silverware and plated ware.....	13	283	55	19.4
Textile machinery and parts.....	36	434	79	18.2
Cotton goods.....	74	20,836	3,645	17.5
Tools.....	10	238	41	17.2
Carpets and rugs, wool.....	5	689	118	17.1
Wire drawn from purchased rods.....	9	169	28	16.6
Cotton small wares.....	24	1,423	234	16.4
Shirts, men's.....	7	1,697	270	15.9

TABLE 3.—*Women 45 years old and over employed in Massachusetts manufacturing establishments, October 1935—Continued*

Industry	Number of establishments reporting	Number of women employed	Women 45 years old and over	
			Number	Percent
Bookbinding and blankbook making	43	789	125	15.8
Stationery goods	7	641	101	15.8
Clocks and watches	8	1,599	240	15.0
Jute goods	2	483	71	14.7
Machine tool accessories	13	341	49	14.4
Bread and other bakery products	94	2,463	355	14.4
Worsted goods	36	9,743	1,385	14.2
Carriages and sleds, children's	9	265	36	13.6
Knit goods	42	5,723	770	13.5
Sporting and athletic goods	9	413	53	12.8
Furniture	81	640	82	12.8
Druggists' preparations	8	803	102	12.7
Ship and boat building, steel and wooden	10	111	14	12.6
Foundry and machine-shop products	104	1,047	131	12.5
Dyeing and finishing textiles	44	2,163	257	11.9
Cordage and twine	10	320	38	11.9
Envelopes	14	1,344	159	11.8
Boxes, paper	59	2,635	295	11.2
Boot and shoe findings	71	1,451	160	11.0
Leather, tanned, curried, and finished	45	1,355	144	10.6
Clothing, men's	26	4,004	423	10.6
Silk and rayon goods	60	3,642	371	10.2
Motor vehicles	3	10	1	10.0
Paper goods	34	1,789	175	9.8
Soap	5	530	52	9.8
Lithographing	8	301	29	9.6
Clothing, women's	126	6,364	578	9.1
Abrasive wheels	10	552	50	9.1
Linen goods	3	618	55	8.9
Liquors, malt	9	68	6	8.8
Cutlery and edge tools	20	506	42	8.3
Boots and shoes, rubber	4	3,439	287	8.3
Sugar refining	2	97	8	8.2
Steam and hot-water heating apparatus	12	127	10	7.9
Wire work, not elsewhere classified	12	331	26	7.9
Nonferrous-metal alloys and products	9	63	5	7.9
Confectionery	39	3,872	306	7.9
Chocolate and cocoa products	4	302	21	7.0
Optical goods	11	1,316	89	6.8
Machine tools	12	144	9	6.3
Meat packing, wholesale	13	350	22	6.3
Toys, games and playground equipment	12	566	35	6.2
Rubber goods, other than boots and shoes	25	1,956	110	5.6
Stoves, ranges and warm-air furnaces	9	182	10	5.5
Electrical machinery, apparatus, and supplies	41	6,762	337	5.0
Miscellaneous articles	14	690	34	4.9
Housefurnishing goods	34	1,224	57	4.7
Furnishing goods, men's	17	1,224	54	4.4
Screw-machine products	9	260	11	4.2
Chemicals	4	717	30	4.2
Stamped and pressed metal products	19	308	12	3.9
Petroleum refining	6	286	7	2.4
Pocketbooks, purses, etc.	5	731	16	2.2
Motor-vehicle bodies and parts	5	456	9	2.0
Radio apparatus	4	739	8	1.1
All other manufactures ¹	563	10,261	1,520	14.8

¹ Includes industries in which fewer than 1,000 persons were employed and those industries for which data cannot be given separately without disclosing the returns for individual establishments.

The industry groups other than factories showed variations in the employment of older women, but somewhat less tendency to discrimination. The chain stores had even less use for older women than for men; of 3,215 female employees only 65 or 2 percent were 45 years old and over. But the other retail stores had a better record, coming next to factories in the numbers employed, having 19 percent in the older-age groups. It is somewhat surprising to find that the hotels employed a high percent (29.8) of older women.

Policies in Dealing With Older Workers Reported by Employers

Answers to questions about policies in dealing with older workers indicate that the discrimination which undoubtedly exists is the product of the depression conditions and of unregulated efforts to obtain a working force which will promote profits, rather than of a callous indifference to the welfare of the older workers. The custom of transferring older workers to lighter tasks was more general than the fixing of definite ages of hiring and separation. No less than 1,502 employers were attempting this kindly method of adjusting tasks to the failing powers of faithful older workers. Further evidence of the desire of many Massachusetts employers to promote stability of employment and old-age protection is given by reports of group insurance and old-age pensions.

Failure of Older Workers to Share Fully in Business Recovery

Complaints of refusal of employment to older workers in Massachusetts, and doubtless in many other industrial centers, have been prompted by bitter disappointment felt when experienced men and women, long unemployed, found themselves denied a share in returning prosperity.

Massachusetts employers showed no inclination to part with those older workers who had been retained during the depression. With the exception of the contractors, who reported a somewhat larger number of separations in the 30 to 34 age group, no occupations had maximum separations in age groups above 30. After the two upper age limits have been reached there is an increasing unwillingness to rehire the older men and women. Beginning at the age of 45, the chances of reemployment in the factories in the State are less than 1 in 4 for men and 1 in 10 for women.

Evidently employers prefer to hire males under 30 and females under 25 years of age. Over half (54.7 percent of the men and 55.5 percent of the women) of the hirings reported were of persons below these age limits. Under normal business conditions special skill would be acquired and permanent connections established by the time these ages are reached.

When, as during the recovery from the depression, many older workers must establish new connections, there is rapidly increasing difficulty in finding openings; this is particularly true of the woman workers. After the age of 45 is passed, only those who have acquired special skill not easily developed by younger rivals can hope for employment.

In the 12 industrial cities studied there were 35,964 men and only 8,829 women receiving public welfare support. As has been shown in this investigation, those 45 years old and over find the greatest difficulty in obtaining employment. There were 18,935 men in these upper age groups compared with 5,291 women, but nearly one-half of the men (47.4 percent) compared with two-fifths (40.1 percent) of the women were in need of this assistance before reaching the 45-year deadline. No doubt this was due to their larger burden of family dependents.

An extensive campaign of vocational guidance and reeducation will be required to restore these men and women to self-support. A comparison of the figures for men over 45 years old employed in Massachusetts manufacturing establishments, with the percentages hired in the same industries, indicates that the older workers hold their positions and are hired in the more skilled occupations.

The existence of discrimination in employment against older workers in Massachusetts was fully established by this investigation. The discovery and application of remedies present social and economic problems as complex and urgent as any which now confront the legislators, social workers, employers, educators, and public officials of the State, all of whom must cooperate in the difficult task of restoring thousands of intelligent, able-bodied men and women to normal self-support and self-respect.



Conclusions of New York Legislative Committee on Older Workers ¹

The basic conclusions of the New York State Joint Legislative Committee on Discrimination in Employment of the Middle-Aged, were set forth in its final report transmitted to the legislature March 21, 1940. The findings of the committee, with reference to some of the alleged causes of discrimination, are summarized below.

Liability of Older Workers to Accident and Occupational Disease

The complaint by employers that older workers have an undue number of accidents is reported as unfounded so far as is shown by data then available. The committee strongly recommends that the State department of labor make a survey to discover the exact age distribution of workers in compensable industries.

According to statistics furnished by the Federal Social Security Board, approximately two-thirds of the workers in industry in November 1937 were under 45 years of age, and two-thirds of the compensation cases reported were among workers under that age, which would seem to indicate that older wage earners do not have a disproportionate percentage of accidents.

It is no doubt true that the older man recovers more slowly than the younger man when he does have an accident, and the cost of his accidents is greater than that of the younger man, but the committee believes that when the basis for a true comparison is had it will show that one offsets the other, and that the older man will prove less expensive from the standpoint of accident cost than the younger man.

The committee concludes, however, that middle-aged workers are more susceptible to vocational diseases than younger workers; this is particularly true in the case of unskilled wage earners.

It has been repeatedly alleged that the representatives of insurance companies suggest indirectly to employers that the latter should not hire older workers. While the committee has no positive proof of

¹ From the Monthly Labor Review for July 1940.

this practice, it was considered advisable to write to the New York State Commissioner of Insurance to have his department look into the matter and see that any such tactics are discontinued, adding, "We have no doubt that in isolated cases at least such a practice exists, even though it may not be widespread."

To correct the condition resulting from the refusal of employers to take on men who have minor disabilities, because of increased compensation-insurance risk, the committee recommends the creation of "a special fund under the workmen's compensation law by apportioning the moneys already being collected under section 15, subdivision 8, thereof, which fund could be used to compensate second-injury cases which have a direct causal relationship to the pre-existing and established injury."

Physical Fitness

The committee is of the opinion that physical unfitness in older workers is their greatest handicap in getting jobs, and reiterates its previous recommendation relative to the physical repair of adult unemployed persons. In this connection the committee presented a copy of its recommendation to the legislature for amending the State public-health act.

Displacement by Modern Machinery

Unrefuted evidence was received by the committee that many older workers are unemployed as the result of modern machinery and accelerated speed in industry. This is particularly true in the case of the "assembly line" and the "stretch-out" system. The depression which began in 1929 increased the drive for the modernization of plants and equipment, and taxes on wages to support social legislation further intensified that drive.

New processes of production have simplified work, and in many cases eliminated the need for skilled workers. Expert craftsmen have also been eliminated when industries have gone out of business as a result of changes in styles and modes.

In the judgment of the committee, the greater mechanization of industry "should not prove to be too serious a problem if we will only take notice of what is occurring and make plans to take care of the men displaced, by retraining them along lines which will again enable them to be absorbed in industry." This calls, however, for a much better statistical picture of industry than is available at present.

The Preference for Younger Persons

In regard to the charge that industry prefers younger men who will accept lower wages and can be trained more easily and dismissed more readily, the committee is of the opinion that this preference determines the practice only in those industries where competition is so great that the very existence of the industry seems to depend on such policy. In an attempt to remedy this procedure, the committee advocates the extension of the widely known Wadsworth-Rochester Employment Plan formulated by the Industrial Management Council of Rochester after consideration of the recommendations of the chair-

man of the New York Joint Legislative Committee on Discrimination in Employment of the Middle-Aged.

This scheme, as set forth on March 24, 1939, includes the maintenance of "a balance between older and younger groups approximating the working age groups of the community. In this way no discrimination can exist against any one age group."

Hiring.—Sound employment policy must take various qualifications into account, not age alone.

Retention in service.—When business conditions necessitate a reduction in force the selection of workers for lay-off should take into consideration the same factors as in hiring, to which should be added that of comparative length of service.

Retraining.—To give practical effect to a policy of retention in service, a program of retraining and reassignment of older workers is desirable. Such a program should include:

(a) Determination of jobs of limited requirements which workers of decreased productivity in their regular occupations may perform with reasonable efficiency without loss of individual and group morale.

(b) Retraining of workers so far as practicable.

(c) Counsel incapacitated workers to take advantage of all present and future rehabilitation facilities, either public or private.

After being approached by the New York Joint Legislative Committee, the Associated Industries of New York State, Inc., with a membership of 1,456 employers and a combined force of 600,000 employees, adopted this formula in the latter part of 1939.

In certain occupations the public prefers younger people, and the employer must meet such wishes. Considerable testimony has been given the committee in regard to the lack of demand for waitresses who are no longer young and attractive. The same situation is said to exist in regard to clerks in stores and, on the whole, to all positions dealing immediately with the general public. However, despite the numerous complaints in this connection against department stores, the committee believes that the hiring policy of the larger, well-established type of department store is highly reasonable.

Office workers and stenographers also report that they are unable to get positions when they become middle-aged, and employment offices have verified these reports. Moreover, hosts of others in similar occupations have told the same story.

The committee holds that where a trade depends more on thoughtful application of the work at hand than on manual dexterity and agility of limbs, "there is no reason to say that the older worker cannot be trained just as readily as the younger man." Furthermore, the committee reports that it has received no convincing evidence that older workers are not as efficient as younger men. Exceptions are made, however, of some jobs where older men cannot expect to compete with younger men.

Importance of Training and Retraining

It is claimed that middle-aged joblessness is frequently due to lack in present educational requirements. The committee holds that the older man without educational background comparable to high-school or trade-school qualifications is very difficult to train in precision work. It is also alleged that some of the middle-aged have not education enough to write legibly or figure accurately or to do

the simple recording so often required. These are well-founded claims, as revealed by statistics on education.

Future tendencies all point to a continuing growth of higher standards in business and industry. This is in harmony with a constant increase in general education requirements, all of which are an important factor in training. It is believed by some authorities that the middle-aged man of the next generation will be far better qualified educationally to hold his job than his counterpart in this generation. His tenure, too, will be strengthened by the fact that a net decline in births will make his services more in demand.

It is not possible to estimate accurately how many expert craftsmen have lost their skills during the depression. It is thought, however, that the number is very large. Various employers, however, have informed the committee that craftsmen of this type can easily be retrained to their previous skills in a very brief period. At every opportunity, the committee has urged such retraining upon employers. "How extensive this alleged shortage of skilled mechanics is in the State of New York, and the United States, no one seems to know. It undoubtedly is extensive and would appear to be acute if we had a healthy prolonged upturn in business."

The committee believes the first thing to be done is to make a complete survey of the State's need for skilled labor and of the available supply. The Government should then cooperate with industry and organized labor for the adequate training of a sufficient number of apprentices.

The committee concludes that the accusations before it that industry has failed to train employees for usefulness in middle age are undoubtedly well founded.

The solution of the problem of the older worker does not lie entirely in the establishment of liberal initial hiring policies. An equally important factor is the development of those policies which provide for the retention of the older individual in employment and eliminate discrimination merely because of age * * *.

There is much evidence to indicate that a substantial percentage of workers do not lose their effectiveness with advancing years, but are able to carry on satisfactorily in their field of work until retirement. Thus the problem of retraining concerns largely that group of older workers who have lost their full usefulness, but who have not reached the retirement age.

Legislation Barring Civil-Service Discrimination

In 1938, the committee succeeded in securing the passage of a bill which prohibited the placing of arbitrary age limits as eligibility requirements for State, county, and municipal civil-service positions in New York State, except for certain positions requiring extraordinary physical effort.

On February 7, 1940, through the efforts of the committee, a resolution was passed unanimously by both houses of the New York State Legislature which read in part as follows:

Whereas, not only the committee but industry, labor, and those connected with the civil service have hailed the salutary effect of this legislative restriction and have pointed out the progressive record of New York State in this regard compared to the regulations of the Federal Civil Service Commission; therefore be it

* * * * *
Resolved, That the Congress of the United States be, and hereby is, respectfully memorialized to enact similar legislation without delay, to the end that

discrimination against older persons in the Federal Civil Service be abolished and that the work of public and private agencies in behalf of the middle-aged worker be enhanced by the good example set by the Federal government.

Other Subjects Considered

Among other subjects taken up in the report under review were the psychological factors involved in the discrimination against older workers, the attitude of labor unions on the subject, employer-employee cooperation, self-help organizations, and the Man-Marketing Clinic.



Influence of Age on Employment Opportunities ¹

A study of employment opportunities by age groups in New England industries was conducted during August and September 1938 by two staff members of the Industrial Relations Section of the Massachusetts Institute of Technology, for the Bureau of Labor Statistics, in order to obtain information for the use of the Committee on Employment Problems of the Older Workers.

The survey was confined to 26 rather large manufacturing companies, of which only 1 had fewer than 200 employees. For the most part, they employed skilled or semiskilled labor and were old established firms, representing a balanced group of New England factories in diverse lines of business. The inquiry was carried out by personal interview, usually with the operating executive of the plant, supplemented by detailed statistical records compiled by the companies on special forms developed for the purpose.

The study covered all age groups and both sexes, and provided an analysis of the age distribution of employees on corresponding dates in 1937 and 1938; an analysis by age groups of the hirings and separations for 1 year and of the ages of applicants for jobs; and analyses of accident and sickness rates and cost, and of productivity, by age groups.

New England workers are not representative of the entire country because New England has more middle-aged and older persons in its working population than has the country as a whole.²

The findings of the survey may be summarized as follows:

1. The age distribution of the working population is markedly affected by industrial fluctuations and, in New England, the reduction in employment which took place in 1937-38 resulted in an increase in the proportion of workers in each 5-year age group over 30 years, and a decrease in the proportion in each group under that age.

2. The business cycle, as it alters the number of workers employed, intermittently contributes changes both to the average age and to the age distribution of a firm's employees. Moreover, the average age of a working force would increase by 1 year during every 12 months if no hiring or firing took place. These factors are of great importance in any effort to understand the relation of age to employment.

¹ Abstract of an article by Dwight L. Palmer and John A. Brownell, Industrial Relations Section, Massachusetts Institute of Technology, in the *Monthly Labor Review* for April 1939.

² According to the 1930 census, 43.6 percent of New England's gainful workers were between 40 and 74 years old. Only 39.3 percent of the gainful workers in the United States were in this age group.

3. Productivity records for three firms indicate no definite tendencies toward diminution in production with advancing age, except in a few special jobs. This relates to employed workers; ineffective workers of any age presumably are weeded out.

4. Accident records, available for only seven plants and hence not suitable for broad generalization, showed no definite relationship between age and either frequency or severity of accidents in the case of men, while among woman workers, younger women experienced more accidents. Records for one large plant showed a trend toward fewer and less severe accidents and lower accident costs for older workers; the records of another large plant indicated a trend in the opposite direction.

5. Interviews with employers reveal that the sense of obligation to provide for older workers who are no longer able to work constitutes their only specific reason for hesitation in the hiring of older workers, except for the belief in some instances that younger men and women are more versatile. Employers expressed a generally high regard for the older workers on their pay rolls. On jobs where skill is required, and where there is any shortage of suitably trained workers, age is definitely not a consideration in hiring.

6. When industrialists feel, as they seem to in New England, that needy older workers cannot be laid off without some kind of pension, there appears to be a strong case for hiring younger men for those job vacancies which occur. Younger applicants are chosen for the great majority of vacancies that occur in New England industry.

7. It is equally clear that in a period of curtailment it is the younger workers who bear the brunt of the lay-off.

8. Two-thirds of the men hired were under 35. On the other hand two-thirds of the 1937-38 cut in working force was taken by the men in this same age group. It appears that older people who are on industrial pay rolls are protected by the employers' sense of obligation to older workers with long service records, and by seniority policies governing lay-offs. Seniority appears to be important in both union and nonunion plants.

9. This study indicates that any realistic approach to the problem of age and employment opportunities, must recognize the interaction of three closely linked factors, i. e., the age distribution of (1) the labor force at any particular time, (2) the hirings and (3) the lay-offs and separations, by which the existing distribution was achieved. Consideration of one factor without the others may result in wholly misleading conclusions, or in a failure clearly to perceive the nature of the problem.

Sickness by Age Groups

Records on frequency and duration of absence caused by sickness are rare and are usually found only in those firms where sickness and accident insurance is made available to the employees. Even then, records seldom cover absences lasting less than 7 days, and no distinction is made between sickness and nonoccupational accidents. A further difficulty is found in measuring the relative exposure of each age group, without which the other figures are of little value.

Only five New England plants submitted statistics on this subject. Their records were not comparable and showed no clear-cut trends.

Productivity

The following table presents a comparison of productivity by age groups for 172 textile weavers, 127 textile spinners, and 147 workers in nonferrous metal manufacturing. Although not conclusive, the figures do suggest that, for those workers who remain on the pay roll, that is, who can maintain the minimum production standards, there is no clear relation between age and output.

*Productivity of employees in New England plants, by age groups***172 TEXTILE WEAVERS ¹**

Age group	Men				Women			
	Number of workers	Productivity			Number of workers	Productivity		
		Average	Highest	Lowest		Average	Highest	Lowest
15 to 19 years.....	0				0			
20 to 24 years.....	1	90.5	90.5	90.5	5	97.5	114.2	80.1
25 to 29 years.....	4	103.9	109.5	93.4	12	98.8	114.5	79.7
30 to 34 years.....	5	98.7	113.5	83.1	24	101.5	115.6	84.7
35 to 39 years.....	8	99.8	111.5	88.1	14	99.2	122.2	84.3
40 to 44 years.....	8	104.0	114.2	92.7	19	100.5	115.0	90.6
45 to 49 years.....	2	107.4	113.0	101.8	20	100.2	114.0	85.1
50 to 54 years.....	8	106.6	122.2	91.5	18	97.5	118.7	82.1
55 to 59 years.....	4	93.5	101.0	80.0	10	96.8	110.6	90.7
60 to 64 years.....	5	104.0	119.3	94.2	2	98.9	103.8	95.9
65 to 69 years.....	1	86.5	86.5	86.5	1	100.0	100.0	100.0
70 to 74 years.....	1	90.2	90.2	90.2				
75 years and over.....	0				0			

127 TEXTILE SPINNERS ²

15 to 19 years.....	0				0			
20 to 24 years.....	0				13	87.6	96.0	84.4
25 to 29 years.....	5	105.2	108.3	102.7	10	86.8	93.1	81.7
30 to 34 years.....	13	102.6	107.8	95.6	1	86.1	86.1	86.1
35 to 39 years.....	14	105.4	118.5	98.3	3	88.0	90.6	86.4
40 to 44 years.....	14	103.9	109.5	99.0	2	91.8	93.6	90.1
45 to 49 years.....	16	102.7	110.0	95.1	0			
50 to 54 years.....	21	102.0	110.4	95.2	1	88.6	88.6	88.6
55 to 59 years.....	7	101.2	107.2	98.4	0			
60 to 64 years.....	6	100.7	105.8	93.4	0			
65 to 69 years.....	0				0			
70 to 74 years.....	1	97.6	97.6	97.6	0			
75 years and over.....	0				0			

147 NONFERROUS METAL WORKERS ³

15 to 19 years.....	4	92	94	91	2	86	94	78
20 to 24 years.....	6	96	110	87	4	96	112	76
25 to 29 years.....	15	103	115	93	10	104	126	82
30 to 34 years.....	14	103	113	88	9	100	121	79
35 to 39 years.....	7	103	107	94	6	105	131	92
40 to 44 years.....	11	104	116	87	3	104	129	86
45 to 49 years.....	11	101	123	86	1	98	98	98
50 to 54 years.....	7	106	115	92	3	89	96	84
55 to 59 years.....	10	99	115	86	1	102	102	102
60 to 64 years.....	13	96	105	81	3	102	112	92
65 to 69 years.....	4	90	99	82	0			
70 to 74 years.....	3	91	95	86	0			
75 years and over.....	0				0			

¹ These figures include all employees of the firm who worked 2 or more 40-hour weeks in both 1937 and 1938. Productivity is measured by calculating for each worker the total piece-work earnings for four 40-hour weeks. The arithmetic average of the totals for all workers, both men and women, is expressed as 100.

² Productivity measured by calculating for each worker the average weekly piece-work earnings for thirteen 40-hour weeks. The arithmetic average of the totals for all workers, both men and women, was expressed as 100.

³ Includes several different factory operations. Productivity computed by calculating the average hourly earnings of each worker for a 3-month period, and expressing the result as a percentage of the average hourly earnings for his department over the same period.

Physiological Age

It may also be worthy of comment that in almost all phases of the problem of age and employment it is "physiological age" which is of importance rather than strict chronological age. The latter is used on the assumption that the two measures correlate closely. Many experts maintain that it is inaccurate to attribute specific physiological characteristics to certain age groups, because individuals differ so widely. If this is true it would justify the expense of the considerable study and experimentation that would be necessary to develop practical and more positive tests for measuring physiological age.

Prices—Retail and Wholesale

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Retail Prices in the United States

Retail Price Information Compiled by Bureau of Labor Statistics

The Bureau of Labor Statistics serves as a collection agency for retail prices and related data on approximately 400 commodities and services that are important in retail trade and in the expenditures of the average wage earner's and lower-salaried worker's family. These commodities and services are classified into the following groups:

- Food.
- Rents.
- Fuel and light.
- Clothing and shoes.
- Yard goods and textile furnishings.
- Furniture and floor covering.
- Household equipment and electrical appliances.
- Drugs, toiletries, and sundries.
- Miscellaneous commodities, including automobile, tires and tubes, petroleum products, etc.
- Services, including transportation, newspapers, medical care, personal care, and similar services.

The major objective of the Bureau in collecting retail-price data is to secure time-to-time comparisons for identical or comparable qualities. At present one of the most important uses of these data is for the computation of changes in the cost of living. In addition, certain special retail-price indexes are computed, such as indexes of prices of gas, electricity, coal, and rents by principal types of dwelling and by amount of rent paid. For foods and fuels, average prices are likewise published regularly.

Detailed specifications are used as guides to the quality of the articles in order to secure retail prices of comparable items from time to time and, insofar as possible, from place to place. These specifications are not intended to represent standards of quality but to describe the essential price-determining features of the items covered, so that bona fide changes in retail prices can be distinguished from changes in quality.

A summary of the work now included in the regular program of the Bureau of Labor Statistics for the collection and publication of retail prices is shown below.

TABLE 1.—Retail price series of the United States Bureau of Labor Statistics

Item	Frequency of collection	Number of items priced	Number of cities covered	Publications	
				Average prices	Indexes
Food.....	Monthly....	63	56	Issued monthly in mimeograph form for United States and 56 cities. Issued monthly in pamphlet Retail Prices for United States.	Issued monthly in mimeograph form for United States and for 51 cities. Issued monthly in pamphlet Retail Prices for United States and for 51 cities.

TABLE 1.—Retail price series of the United States Bureau of Labor Statistics—Con.

Item	Frequency of collection	Number of items priced	Number of cities covered	Publications	
				Average prices	Indexes
Clothing, furniture, drugs, etc.	Quarterly	250	34	None regularly	Issued quarterly as sub-groups of cost-of-living indexes in quarterly pamphlet Changes in Cost of Living.
Rents	do		34	None	Issued quarterly in mimeograph form for each of 34 cities by type of dwelling. Issued quarterly in mimeograph form for each of 34 cities by amount of rent paid. Issued quarterly in pamphlet Changes in Cost of Living for 34 cities.
Fuel and light:					
Coal	Monthly	21	51	Issued monthly in mimeograph form for each of 51 cities. Issued quarterly in pamphlet Retail Prices for United States and annually for each of 51 cities.	Issued quarterly in pamphlet Retail Prices for United States.
Gas	Quarterly	4	50	Complete report by cities issued annually in pamphlet Retail Prices. Changes from preceding quarter included in quarterly pamphlet Retail Prices.	Complete report by cities issued annually in pamphlet Retail Prices.
Electricity	do	4	51		
Wood	Monthly	2	27	Issued monthly in mimeograph form for 27 cities.	None.
Heating oil	do	5	29	Issued monthly in mimeograph form for 29 cities.	None.

National Defense Program

The Bureau of Labor Statistics has recently added a number of activities to its regular program of retail-price collection in order to provide data required by the defense and wartime agencies. The additional services inaugurated to date include the following:

1. Monthly collection of retail-price data on a limited list of items in 21 cities, for use in the construction of a monthly index of changes in living costs. The cities included are:

Boston.	Cleveland.	Birmingham.
Buffalo.	Detroit.	Houston.
New York.	Kansas City.	Denver.
Philadelphia.	Minneapolis.	Los Angeles.
Pittsburgh.	St. Louis.	San Francisco.
Chicago.	Baltimore.	Seattle.
Cincinnati.	Savannah.	

2. Quarterly collection of retail prices for cost-of-living reports in selected cities, not previously included in the series, where defense activities are relatively numerous and economic conditions are changing rapidly. The cities so far surveyed are:

Bridgeport, Conn.	Gadsden, Ala.
South Bend, Ind.	Corpus Christi, Tex.
San Diego, Calif.	

3. Quarterly collection of retail prices for cost-of-living reports in 20 small cities, to supplement the present work in 34 large cities, and to provide a basis for comparing living-cost trends in smaller communities with those in large cities. The small cities selected are:

Torrington, Conn.
Clarksburg, W. Va.
Lebanon, Pa.
Oswego, N. Y.
Vineland, N. J.
Battle Creek, Mich.
Bloomington, Ind.
Mattoon, Ill.
Oconto, Wis.
Zanesville, Ohio.

Clinton, Iowa.
Falls City, Nebr.
Watertown, S. Dak.
Chester, S. C.
Goldsboro, N. C.
Jonesboro, Ark.
Stillwater, Okla.
Vicksburg, Miss.
Globe, Ariz.
Walla Walla, Wash.

4. Quarterly surveys of rent changes since October 1939 in cities in which large increases in employment for defense work have created special problems related to the housing of the workers. About 100 cities are included in this program.¹

Retail Food Prices ²

At the present time retail prices of 63 foods are obtained at monthly intervals in 56 cities from approximately 2,000 dealers, including both chain and independent grocery establishments as well as dairies and bakeries. The number of quotations secured for each commodity varies from 10 to 65, depending on the size of the city. Average prices and indexes are computed from these data for the United States, and for each of the individual cities.

Indexes of Food Costs, 1913 to 1941

Indexes of food costs, using the averages for 1935-39 as 100, have been computed back to 1913, by years, and by years and months as far back as 1923.³ These indexes are based on 54 items, classified into 8 groups, as follows: Cereals and bakery products, meats, dairy products, eggs, fruits and vegetables, beverages, fats and oils, and sugar. The indexes are computed by giving to each food and group of foods weights corresponding to their relative importance in the expenditures of moderate-income families, as shown by the 1934-36 Nation-wide study of disbursements of wage earners and lower-salaried clerical workers.⁴

¹ Information on the cities covered by special rent surveys and data on the results of these surveys may be obtained by writing to the U. S. Bureau of Labor Statistics, Washington, D. C.

² See U. S. Bureau of Labor Statistics Bull. No. 635 (p. 198), for history of food-price collection by the Bureau of Labor Statistics.

³ See pamphlet, Retail Prices, August 1940.

⁴ For a detailed description of the cost-of-living indexes, including the food-cost index, see U. S. Bureau of Labor Statistics Bull. No. 699; Changes in Cost of Living in Large Cities in the United States, 1913-1941.

TABLE 2.—Indexes of retail cost of food in the United States, 1913-41

[1935-39=100]

Date	Index	Date	Index	Date	Index
1913.....	79.9	1936 average—Con.		1939 average.....	95.2
1914.....	81.8	Mar. 10.....	98.5	Jan. 17.....	95.8
1915.....	80.9	Apr. 21.....	98.4	Feb. 14.....	94.8
1916.....	90.8	May 19.....	98.1	Mar. 14.....	94.6
1917.....	116.9	June 16.....	101.7	Apr. 18.....	94.2
1918.....	134.4	July 14.....	102.6	May 16.....	94.0
1919.....	152.1	Aug. 18.....	104.0	June 13.....	93.6
1920.....	168.5	Sept. 15.....	104.8	July 18.....	94.3
1921.....	128.2	Oct. 13.....	103.0	Aug. 15.....	93.5
1922.....	120.3	Nov. 17.....	101.9	Sept. 19.....	98.4
1923.....	124.0	Dec. 15.....	101.6	Oct. 17.....	97.6
1924.....	122.8	1937 average.....	105.3	Nov. 14.....	96.7
1925.....	132.9	Jan. 12.....	103.1	Dec. 12.....	94.9
1926.....	137.4	Feb. 16.....	103.6	1940 average.....	96.6
1927.....	132.3	Mar. 16.....	105.0	Jan. 16.....	94.8
1928.....	130.8	Apr. 13.....	105.1	Feb. 13.....	96.6
1929.....	132.5	May 18.....	106.1	Mar. 12.....	95.6
1930.....	126.0	June 15.....	106.0	Apr. 16.....	96.2
1931.....	103.9	July 13.....	106.3	May 14.....	97.0
1932.....	86.4	Aug. 17.....	106.9	June 18.....	98.3
1933.....	84.1	Sept. 14.....	107.9	July 16.....	97.4
1934.....	93.7	Oct. 12.....	106.5	Aug. 13.....	96.2
1935 average.....	100.4	Nov. 16.....	104.1	Sept. 17.....	97.2
Jan. 15.....	98.4	Dec. 14.....	102.7	Oct. 15.....	96.2
Feb. 12.....	100.4	1938 average.....	97.8	Nov. 12.....	95.9
Mar. 12.....	99.7	Jan. 18.....	99.7	Dec. 17.....	97.3
Apr. 9.....	101.9	Feb. 15.....	97.3	1941 average.....	105.5
May 21.....	101.3	Mar. 15.....	97.5	Jan. 14.....	97.8
June 18.....	100.5	Apr. 12.....	98.4	Feb. 18.....	97.9
July 16.....	99.4	May 17.....	97.5	Mar. 18.....	98.4
Aug. 13.....	99.4	June 14.....	98.2	Apr. 15.....	100.6
Sept. 10.....	100.5	July 12.....	98.5	May 13.....	102.1
Oct. 8.....	100.0	Aug. 16.....	97.5	June 17.....	105.9
Nov. 19.....	101.3	Sept. 13.....	98.1	July 15.....	106.7
Dec. 17.....	102.1	Oct. 18.....	97.1	Aug. 12.....	108.0
1936 average.....	101.3	Nov. 15.....	96.2	Sept. 16.....	110.7
Jan. 14.....	101.5	Dec. 13.....	97.2	Oct. 14.....	111.6
Feb. 11.....	100.1			Nov. 18.....	113.1
				Dec. 16.....	113.1

Indexes by Commodity Groups, 1923 to 1941

Indexes for the 10 groups and subgroups of items included in the food indexes are presented in table 3.

TABLE 3.—Indexes of retail food costs in 51 cities combined, by commodity groups, 1923-41

[1935-39=100]

Date	All foods	Cereals and bakery products	Meats	Dairy products	Eggs	Fruits and vegetables				Beverages	Fats and oils	Sugar
						Total	Fresh	Canned	Dried			
1923.....	124.0	105.5	101.2	129.4	136.1	169.5	173.6	124.8	175.4	131.5	126.2	175.4
1924.....	122.8	107.2	102.4	124.1	139.0	159.5	162.7	128.2	159.6	147.6	134.1	159.1
1925.....	132.9	116.0	111.3	128.2	151.2	185.1	193.5	132.3	159.0	170.3	149.1	124.6
1926.....	137.4	115.7	117.8	127.4	141.7	210.8	226.2	122.9	152.4	170.4	145.0	120.0
1927.....	132.3	113.3	116.0	130.7	133.2	183.8	194.4	120.8	145.9	163.3	132.8	127.2
1928.....	130.8	110.1	123.1	131.4	137.3	161.4	166.5	120.6	153.9	165.2	128.3	123.1
1929.....	132.5	107.6	127.1	131.0	143.8	169.0	173.5	124.3	171.0	164.8	127.2	114.3
1930.....	126.0	104.3	119.1	121.0	121.4	177.5	185.7	118.6	158.7	143.4	119.2	107.4
1931.....	103.9	91.4	101.1	102.8	95.6	125.7	128.7	103.3	118.7	124.6	96.0	99.1
1932.....	86.5	82.6	79.3	84.9	82.3	103.5	105.9	91.1	91.2	112.6	71.1	89.6
1933.....	84.1	84.7	68.9	82.8	77.9	113.8	118.9	87.9	88.4	102.4	66.4	94.3
1934.....	93.7	98.3	78.9	90.9	88.6	119.1	122.3	103.9	101.1	107.6	76.4	97.9
1935 average.....	100.4	101.8	99.9	97.5	104.2	99.7	98.8	106.2	100.8	104.0	110.3	100.7
Jan. 15.....	98.4	100.9	88.9	98.7	108.4	104.3	103.8	106.8	103.2	110.5	99.8	95.9
Feb. 12.....	100.4	101.2	92.9	103.6	111.0	103.0	101.7	108.1	103.5	110.0	103.8	95.6
Mar. 12.....	99.7	101.1	97.6	100.4	86.7	102.3	100.7	108.5	103.6	108.3	107.4	95.9
Apr. 9.....	101.9	101.4	98.3	102.7	86.3	109.2	109.6	108.9	103.6	106.5	108.8	96.4
May 21.....	101.3	101.9	101.2	97.1	94.0	104.8	104.0	108.7	102.9	104.4	109.0	100.1
June 18.....	100.5	100.9	102.2	94.6	94.3	102.9	101.4	108.5	104.2	103.2	110.2	101.0
July 16.....	99.4	101.0	101.1	93.1	97.6	99.1	96.4	108.9	103.9	102.8	110.8	103.1
Aug. 13.....	99.4	101.3	104.3	93.1	104.5	92.6	88.2	107.6	102.8	101.9	114.5	103.6
Sept. 10.....	100.5	101.6	106.1	93.8	113.8	91.9	88.4	104.1	100.2	100.8	117.5	104.1
Oct. 8.....	100.0	102.2	104.6	93.9	118.9	89.8	96.4	101.9	97.1	100.0	117.2	104.1
Nov. 19.....	101.3	103.7	100.6	98.8	120.5	96.1	94.9	101.6	93.3	99.6	112.5	104.9
Dec. 17.....	102.1	104.2	100.5	100.4	114.0	100.0	100.2	101.1	91.8	99.4	110.9	104.0
1936 average.....	101.3	100.7	98.9	101.6	103.3	104.8	106.2	100.9	96.6	99.4	102.8	99.6
Jan. 14.....	101.5	102.7	100.7	101.5	104.6	100.4	100.9	101.0	91.4	99.2	107.5	100.9
Feb. 11.....	100.1	101.4	98.5	102.6	100.4	98.7	98.9	100.0	90.2	99.0	104.4	99.1
Mar. 10.....	98.5	100.6	97.1	100.3	94.4	97.4	97.3	99.6	89.8	99.0	102.8	98.4
Apr. 21.....	98.4	100.3	98.2	98.3	81.4	101.1	102.4	99.2	88.2	99.4	102.1	98.7
May 19.....	98.1	99.7	97.6	95.2	84.7	102.7	104.6	98.9	88.2	99.6	101.4	98.2
June 16.....	101.7	99.4	98.8	96.7	89.4	115.8	121.7	98.8	89.5	98.2	100.2	100.3
July 14.....	102.6	99.6	100.1	100.5	96.2	112.8	117.5	99.3	91.4	98.3	100.1	100.9
Aug. 13.....	104.0	100.6	100.8	104.9	106.6	110.7	113.7	101.5	98.9	99.0	101.6	100.9
Sept. 15.....	104.8	101.1	102.8	106.3	111.5	108.8	110.6	103.3	102.4	99.7	103.1	100.6
Oct. 13.....	103.0	101.1	99.2	104.4	119.2	105.0	105.3	103.5	105.3	100.0	103.3	99.9
Nov. 17.....	101.9	100.8	96.5	104.1	128.8	101.6	100.7	102.9	110.6	100.0	103.0	98.0
Dec. 15.....	101.6	100.8	96.0	104.4	122.6	102.1	101.2	102.9	112.9	100.3	104.1	98.0
1937 average.....	105.3	103.3	105.8	105.4	101.2	107.9	108.6	103.2	116.0	103.6	105.8	101.2
Jan. 12.....	103.1	101.4	98.5	105.5	108.5	107.1	107.5	103.3	114.9	101.7	106.5	99.7
Feb. 16.....	103.6	100.9	97.4	105.0	92.3	115.3	118.0	103.4	119.6	102.2	106.8	101.1
Mar. 16.....	105.0	101.8	98.8	105.8	91.4	118.7	122.1	103.9	122.7	102.8	107.0	100.8
Apr. 13.....	105.1	102.8	101.5	103.6	92.0	116.9	119.7	104.0	123.1	103.2	107.5	101.3
May 18.....	106.1	104.2	103.5	101.8	87.5	120.5	124.3	104.3	123.3	103.4	106.4	101.4
June 15.....	106.0	104.7	106.3	101.3	88.6	115.9	118.2	104.6	123.3	104.0	107.3	100.5
July 13.....	106.3	104.9	111.8	102.7	96.1	107.4	107.0	104.9	122.6	104.5	107.5	99.2
Aug. 17.....	106.9	104.7	115.7	133.8	101.8	102.7	101.3	103.6	120.1	104.9	107.9	98.6
Sept. 14.....	107.9	104.2	115.3	106.3	111.5	103.1	102.4	102.9	115.5	104.7	106.2	102.0
Oct. 12.....	106.5	103.8	112.3	107.8	115.6	98.6	97.2	101.8	107.3	104.5	105.5	103.6
Nov. 16.....	104.1	103.2	106.3	109.4	120.4	93.6	91.2	101.3	101.4	104.1	102.2	103.2
Dec. 14.....	102.7	102.9	101.6	111.3	109.1	95.4	93.9	100.8	98.0	102.7	98.7	102.7
1938 average.....	97.8	99.8	98.9	99.6	100.3	93.2	92.1	97.4	93.3	97.7	93.5	97.9
Jan. 18.....	99.7	102.5	98.0	106.2	99.6	94.3	92.7	100.4	96.1	100.5	96.2	101.9
Feb. 15.....	97.3	102.4	94.8	103.8	83.8	93.6	91.9	100.2	94.9	99.3	95.1	102.3
Mar. 15.....	97.5	102.1	97.4	103.2	81.1	92.9	91.1	99.8	93.7	99.0	95.0	101.1
Apr. 12.....	98.4	101.8	99.1	101.4	80.5	97.2	96.9	99.5	93.2	98.3	94.2	99.8
May 17.....	97.5	101.4	98.7	98.1	85.9	96.0	95.4	99.3	92.8	97.8	93.3	98.6
June 14.....	98.2	101.0	100.9	96.6	89.9	97.2	97.1	98.6	92.6	97.4	92.8	97.7
July 12.....	98.5	100.5	103.0	96.7	96.1	94.6	93.7	98.3	93.5	97.2	93.2	96.8
Aug. 16.....	97.5	100.0	101.8	95.5	102.8	90.3	88.4	97.2	93.8	96.7	93.6	95.3
Sept. 13.....	98.1	97.3	102.2	97.7	116.5	90.4	88.9	95.3	93.8	96.4	93.1	94.8
Oct. 18.....	97.1	96.4	98.3	97.6	122.4	90.4	89.5	93.8	92.4	96.3	92.5	95.0
Nov. 15.....	96.2	96.0	96.3	97.7	123.8	88.5	87.1	93.4	91.3	96.6	91.9	95.3
Dec. 13.....	97.2	95.7	96.0	99.7	120.6	92.9	93.0	92.7	91.1	96.4	90.9	95.7

TABLE 3.—Indexes of retail food costs in 51 cities combined, by commodity groups, 1923-41—Continued

Date	All foods	Cereals and bakery products	Meats	Dairy products	Eggs	Fruits and vegetables				Beverages	Fats and oils	Sugar
						Total	Fresh	Canned	Dried			
1939 average...	95.2	94.5	96.6	95.9	91.0	94.5	95.1	92.3	93.3	95.5	87.7	100.6
Jan. 17.....	95.8	95.3	96.6	98.4	93.8	94.0	94.6	92.5	90.2	96.5	89.8	95.3
Feb. 14.....	94.8	94.8	97.0	97.4	83.5	93.2	93.7	92.0	90.1	96.3	88.9	94.7
Mar. 14.....	94.6	94.6	97.1	96.7	81.0	94.3	95.2	91.8	89.7	96.2	88.2	94.6
Apr. 18.....	94.2	94.3	97.8	91.7	78.8	96.3	97.7	92.2	90.2	96.0	87.5	94.7
May 16.....	94.0	94.1	97.6	90.5	78.6	96.9	98.7	91.5	89.3	95.1	86.8	95.0
June 13.....	93.6	94.1	96.7	90.5	79.2	96.2	97.7	91.5	90.1	95.0	86.3	95.5
July 18.....	94.3	94.0	97.2	91.8	86.9	95.7	97.1	91.5	90.2	95.0	85.4	95.7
Aug. 15.....	93.5	93.4	95.7	93.1	90.7	92.5	92.8	91.6	90.3	94.9	84.5	95.6
Sept. 19.....	98.4	94.5	101.0	98.2	105.6	94.4	94.6	92.7	98.5	95.1	92.3	119.2
Oct. 17.....	97.6	94.9	96.8	100.5	106.5	94.7	94.6	93.2	100.9	95.2	89.0	115.5
Nov. 14.....	96.7	95.0	94.4	101.2	110.7	93.4	93.0	93.3	99.8	95.1	87.5	108.1
Dec. 12.....	94.9	95.1	91.7	102.2	96.9	91.9	91.1	93.3	100.5	95.0	86.0	103.5
1940 average...	96.6	96.8	95.8	101.4	93.8	96.5	97.3	92.4	100.6	92.5	82.2	96.8
Jan. 16.....	94.8	97.0	91.0	103.3	89.4	92.4	91.7	93.3	100.5	94.6	85.2	100.5
Feb. 13.....	96.6	97.8	90.0	103.9	98.0	99.5	101.1	92.7	101.1	94.5	84.0	99.2
Mar. 12.....	95.6	97.9	91.0	102.3	81.5	99.4	101.0	92.8	101.1	93.9	83.5	98.4
Apr. 16.....	96.2	98.4	93.1	101.0	77.7	101.3	103.4	92.9	100.8	93.7	82.8	97.8
May 14.....	97.0	98.4	94.9	99.1	77.9	104.6	107.8	92.9	100.9	93.3	82.9	97.3
June 18.....	98.3	97.7	96.0	98.2	77.9	110.6	115.7	92.7	100.9	92.8	82.0	97.3
July 16.....	97.4	97.4	98.6	98.8	87.8	100.4	102.2	92.7	100.9	92.8	82.1	96.1
Aug. 13.....	96.2	96.8	99.2	99.0	91.7	95.5	93.4	92.2	100.8	92.3	81.7	95.4
Sept. 17.....	97.2	96.2	102.4	99.7	105.7	90.4	89.4	91.9	100.5	91.1	81.3	94.8
Oct. 15.....	96.2	94.8	99.1	101.5	110.7	88.4	86.9	91.5	99.4	90.7	80.5	94.7
Nov. 12.....	95.9	94.7	97.3	103.0	115.2	87.3	85.5	91.3	100.1	90.3	80.2	94.8
Dec. 17.....	97.3	94.8	97.4	107.4	111.7	90.4	89.5	91.3	99.6	90.3	80.1	94.7
1941 average...	105.5	97.9	107.5	112.0	112.2	103.2	104.2	97.9	106.7	101.5	94.0	106.4
Jan. 14.....	97.8	94.9	101.1	105.1	97.4	93.3	93.4	91.4	99.6	90.9	80.3	95.3
Feb. 18.....	97.9	95.0	102.5	104.4	85.0	95.6	96.3	91.8	99.5	91.5	81.1	96.0
Mar. 18.....	98.4	95.1	102.5	104.6	83.0	97.1	98.1	92.5	99.3	93.5	81.3	98.1
Apr. 15.....	100.6	95.2	103.5	106.3	92.0	100.6	102.5	93.1	100.0	95.0	85.1	104.6
May 13.....	102.1	95.4	104.2	107.7	94.3	103.5	105.8	94.2	102.7	96.1	88.0	106.9
June 17.....	105.9	95.9	106.8	109.7	104.4	112.1	116.5	96.2	105.1	98.7	92.5	107.4
July 15.....	106.7	96.2	108.7	112.3	114.7	107.0	109.3	97.9	106.5	101.4	96.6	107.8
Aug. 12.....	108.0	99.0	111.2	114.5	120.7	103.4	103.8	100.2	109.1	103.8	99.2	109.0
Sept. 16.....	110.7	100.9	115.5	118.5	132.9	100.5	99.4	102.5	111.0	109.2	103.0	111.8
Oct. 14.....	111.6	102.2	112.9	119.9	137.3	104.0	103.5	103.7	112.7	110.0	105.6	112.5
Nov. 18.....	113.1	102.2	110.4	120.9	146.1	110.3	111.2	105.2	116.2	112.9	106.7	112.9
Dec. 16.....	113.1	102.5	111.1	120.5	138.1	110.5	111.0	106.3	118.3	114.1	108.5	114.4

Average Retail Food Prices, 1935 to 1941

Average retail prices for each of the 54 foods included in the food-cost index are presented in table 4. In computing averages for individual items in the 51 cities combined, account is taken not only of the size of the population represented by the price series for each city, but also of regional or local differences in dietary habits, which are reflected in differences among the cities in the consumption of the various foods, as shown in the 1934-36 study of family expenditures.

TABLE 4.—Average retail prices (in cents) of 54 foods in 51 cities combined, 1935-41

Date	Cereals and bakery products										Meats										
	Cereals				Bakery products						Beef			Veal	Pork			Lamb		Poultry	Fish, canned
	Wheat flour	Macaroni	Corn flakes	Corn meal	Bread, white	Bread, whole wheat	Bread, rye	Cake	Soda crackers	Round steak	Rib roast	Chuck roast	Cut-lets	Chops	Bacon, sliced	Ham, whole	Salt pork	Leg	Rib chops	Roasting chickens	Salmon, pink
10 lbs.	Lb.	8-oz. pkg.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	16-oz. can
1935.....	50.5	15.7	8.3	4.6	8.3	8.9	8.8	23.0	17.5	36.0	30.9	24.0	39.5	36.1	41.3	29.7	26.3	27.9	34.5	30.9	13.1
1936.....	47.6	15.0	8.1	4.7	8.2	8.9	8.8	24.9	18.0	34.1	29.1	22.3	41.0	34.1	40.7	31.7	24.4	29.2	36.3	32.5	13.1
1937.....	47.9	15.2	8.0	5.1	8.6	9.3	9.5	25.3	17.6	39.1	32.8	25.7	43.5	36.7	41.3	31.0	25.3	30.3	38.3	34.1	13.2
1938.....	39.6	14.7	7.4	4.2	8.6	9.4	9.8	24.9	15.9	34.9	29.2	22.8	42.9	32.9	36.7	29.0	20.2	28.3	35.5	34.2	13.2
1939.....	37.9	14.2	7.1	4.0	7.9	8.9	9.2	(1)	15.0	36.0	29.5	23.4	43.0	30.4	31.9	27.5	17.3	28.2	36.1	30.6	13.1
1940 average.....	42.9	14.1	7.1	4.2	8.0	9.0	9.4	25.1	15.0	36.4	29.4	23.5	42.8	27.9	27.3	24.3	14.6	27.9	35.7	30.4	15.6
Jan. 16.....	44.5	14.3	7.0	4.2	8.0	9.0	9.4	24.9	15.0	34.0	28.3	22.4	42.4	24.5	28.0	24.5	15.2	25.9	32.9	27.5	14.9
Feb. 13.....	44.6	14.2	7.0	4.2	8.1	9.0	9.5	25.4	15.1	33.8	28.0	22.1	42.7	23.3	27.6	24.3	14.3	25.7	32.3	28.0	15.2
Mar. 12.....	44.9	14.2	7.0	4.2	8.1	9.0	9.5	25.5	15.0	33.7	27.8	22.0	41.9	24.9	26.9	24.0	13.7	27.1	34.3	28.8	15.3
Apr. 16.....	45.2	14.2	7.1	4.2	8.2	9.0	9.5	25.4	15.0	34.1	27.9	21.9	41.2	27.6	26.1	23.1	13.5	28.7	36.4	29.9	15.4
May 14.....	45.5	14.1	7.1	4.2	8.2	9.0	9.5	25.1	15.1	35.0	28.5	22.3	42.0	27.7	26.2	23.7	13.8	28.7	37.3	32.3	15.6
June 18.....	43.9	14.1	7.2	4.2	8.1	9.0	9.5	25.0	15.1	36.1	28.5	22.7	42.2	26.7	26.1	23.8	13.7	30.2	39.2	33.4	15.7
July 16.....	42.6	14.1	7.2	4.2	8.1	9.0	9.4	24.9	15.0	37.8	29.3	23.5	42.4	30.9	26.4	24.5	14.0	29.1	38.2	33.1	15.8
Aug. 13.....	41.6	14.0	7.2	4.2	8.1	9.0	9.4	24.8	15.1	38.6	29.8	23.8	43.1	31.5	26.6	24.8	14.1	28.8	38.2	31.6	15.9
Sept. 17.....	40.1	13.9	7.0	4.2	8.1	9.0	9.4	24.9	15.1	40.3	31.7	25.5	45.0	32.9	27.6	25.4	15.0	29.3	37.8	31.0	15.7
Oct. 15.....	40.3	13.9	7.0	4.2	7.8	8.8	9.3	24.9	15.0	38.3	31.0	25.3	44.2	30.5	25.5	24.5	15.6	28.0	34.6	29.9	15.7
Nov. 12.....	40.8	13.8	7.0	4.2	7.8	8.8	9.1	25.1	15.0	37.7	31.0	25.1	43.8	27.9	28.5	24.2	16.4	26.9	33.5	29.2	15.7
Dec. 17.....	41.3	13.9	7.1	4.3	7.8	8.8	9.1	25.0	14.9	37.7	31.0	25.1	43.1	26.6	28.9	25.0	16.4	26.5	33.5	29.9	15.7
1941 average.....	45.2	13.8	7.1	4.3	8.1	9.0	9.2	25.6	15.0	39.1	31.1	25.5	47.3	34.3	34.3	30.4	19.0	29.7	38.0	32.6	17.9
Jan. 14.....	45.1	13.8	7.1	4.2	7.8	8.7	9.0	25.1	15.0	38.6	31.5	25.2	45.2	29.1	30.1	26.2	16.7	27.8	35.0	31.1	15.7
Feb. 18.....	41.3	13.8	7.2	4.2	7.8	8.7	9.0	25.6	15.1	38.4	31.3	25.1	46.7	29.5	31.9	27.3	17.9	27.7	35.4	31.9	16.0
Mar. 18.....	41.7	13.8	7.2	4.2	7.8	8.8	9.0	25.3	15.0	38.0	31.2	25.1	46.2	29.6	32.0	27.6	17.8	27.7	35.3	32.1	16.2
Apr. 15.....	43.1	13.8	7.1	4.3	7.8	8.8	9.0	25.3	14.6	38.0	36.2	24.9	45.3	30.9	32.6	28.1	18.1	27.9	35.5	32.9	16.5
May 13.....	43.9	13.8	7.1	4.3	7.8	8.8	9.0	25.5	14.5	37.6	30.4	24.1	45.3	31.9	33.4	29.2	18.4	29.4	37.2	33.9	16.8
June 17.....	45.1	13.8	7.0	4.3	7.9	8.7	9.0	25.5	14.8	38.0	30.1	24.2	45.8	34.8	34.4	30.5	19.0	31.7	40.6	33.8	17.1
July 15.....	46.1	13.8	7.0	4.3	7.9	8.8	9.0	25.8	15.1	38.8	30.3	24.6	46.6	37.0	35.4	32.3	19.7	30.2	40.8	33.5	17.6
Aug. 12.....	46.6	13.8	7.1	4.3	8.3	9.0	9.5	25.6	15.0	40.3	30.9	25.4	48.4	38.4	36.0	33.3	20.0	29.7	40.1	32.9	18.7
Sept. 16.....	47.5	13.8	7.1	4.4	8.5	9.2	9.5	25.6	15.1	41.5	32.0	26.7	50.2	41.5	36.6	34.2	20.3	32.4	41.5	32.9	19.8
Oct. 14.....	48.3	14.0	7.1	4.4	8.7	9.4	9.6	25.8	15.2	40.4	31.8	26.9	50.1	38.1	36.9	32.8	20.4	31.2	39.1	32.4	19.8
Nov. 18.....	48.5	14.0	7.1	4.4	8.6	9.5	9.6	25.7	15.2	39.3	31.1	26.5	49.0	36.0	31.3	32.0	20.0	30.5	37.8	31.7	20.0
Dec. 16.....	49.2	14.0	7.1	4.4	8.6	9.5	9.6	25.8	15.3	40.1	31.8	27.0	48.9	34.5	36.0	31.9	20.2	30.5	38.2	32.1	20.0

See footnotes at end of table.

RETAIL PRICES IN UNITED STATES 693

TABLE 4.—Average retail prices (in cents) of 54 foods in 51 cities combined, 1935-41—Continued

Date	Dairy products					Eggs	Fruits and vegetables										
	Butter	Cheese	Milk, fresh, delivered	Milk, fresh, store	Milk, evapo- rated		Fresh										
							Apples	Bananas	Oranges	Beans, green	Cab- bage	Carrots	Lettuce	Onions	Pota- toes	Spinach	Sweet- pota- toes
	<i>Lb.</i>	<i>Lb.</i>	<i>Qt.</i>	<i>Qt.</i>	<i>1½-oz. can</i>	<i>Doz.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Doz.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Bunch</i>	<i>Head</i>	<i>Lb.</i>	<i>15 lbs.</i>	<i>Lb.</i>	<i>Lb.</i>
1935.....	36.0	27.0	11.7	7.0	37.6	5.9	6.4	32.0	12.7	3.9	5.3	8.9	5.1	28.6	7.9	4.3	
1936.....	39.5	28.3	12.0	(?)	37.1	5.8	6.4	33.6	11.5	4.3	5.2	8.8	3.8	47.8	7.1	4.7	
1937.....	40.7	29.4	12.5	11.7	36.2	6.1	6.4	38.9	12.5	3.7	5.8	8.9	4.1	41.9	7.1	5.0	
1938.....	34.7	27.0	12.5	11.5	35.5	4.8	6.2	26.7	10.2	3.5	5.3	8.9	4.3	32.0	6.8	4.3	
1939.....	32.5	25.3	12.2	11.2	32.1	4.9	6.3	28.9	10.3	3.6	5.3	8.5	3.8	37.1	6.4	4.6	
1940 average.....	36.0	25.9	12.8	11.5	7.0	33.1	5.2	6.4	29.1	11.5	3.4	5.4	8.4	4.5	35.8	6.5	4.8
Jan. 16.....	37.5	26.2	12.9	11.6	7.0	31.5	4.5	6.4	24.8	12.4	3.7	5.1	7.8	3.2	38.0	7.1	4.0
Feb. 13.....	37.7	26.3	12.9	11.8	7.0	34.5	4.6	6.4	26.8	20.2	4.4	5.3	8.0	3.6	39.4	9.7	4.2
Mar. 12.....	35.7	26.3	12.9	11.8	7.1	28.6	4.9	6.4	26.8	25.1	3.9	5.0	8.4	3.3	38.4	6.5	4.3
Apr. 16.....	34.9	26.0	12.8	11.6	7.0	27.3	5.2	6.3	28.1	12.0	4.0	5.0	10.0	5.5	42.7	5.8	4.7
May 14.....	34.3	25.8	12.6	11.3	6.9	27.4	5.8	6.4	31.2	9.8	4.1	5.4	8.4	6.9	45.2	5.3	5.2
June 18.....	33.6	25.3	12.5	11.3	6.9	27.5	7.2	6.4	33.2	8.7	3.6	7.2	10.6	6.9	44.6	5.0	5.7
July 16.....	33.9	25.6	12.6	11.3	7.0	30.9	6.6	6.4	31.0	7.6	2.9	6.4	7.5	5.8	36.8	6.0	6.6
Aug. 13.....	34.1	25.5	12.6	11.3	7.0	32.3	5.1	6.4	31.2	9.6	2.9	4.9	7.5	4.2	30.9	7.3	6.4
Sept. 17.....	34.3	25.7	12.7	11.3	7.0	37.2	4.7	6.4	30.3	7.7	2.8	5.1	8.2	3.6	28.8	7.9	4.3
Oct. 15.....	36.3	25.9	12.7	11.5	7.0	39.1	4.6	6.4	30.0	8.0	2.6	5.2	8.5	3.3	23.0	5.4	3.9
Nov. 12.....	37.4	26.1	12.8	11.7	7.0	40.7	4.7	6.6	28.4	7.8	2.5	5.2	8.0	3.3	28.1	5.5	3.9
Dec. 17.....	41.8	26.6	13.0	11.8	7.0	39.8	5.0	6.6	27.9	9.5	2.8	5.6	8.4	3.5	23.9	7.0	4.6
1941 average.....	41.1	30.0	13.6	12.6	7.8	39.7	5.4	7.2	31.0	13.2	4.2	5.8	9.5	5.0	35.2	7.3	5.1
Jan. 14.....	38.0	27.0	13.0	11.9	7.1	34.9	5.2	6.6	27.3	14.0	3.4	6.0	8.4	3.6	29.2	7.3	5.0
Feb. 18.....	37.4	27.0	13.0	11.9	7.1	30.0	5.2	6.7	27.4	17.6	4.5	5.4	8.1	3.6	30.0	7.6	5.0
Mar. 18.....	37.6	26.7	13.0	11.9	7.1	29.4	5.3	7.0	27.5	20.2	5.0	5.3	8.1	3.6	29.6	7.0	5.3
Apr. 15.....	39.5	27.0	13.0	12.0	7.1	32.5	5.6	7.3	27.7	16.5	5.2	5.3	9.4	4.9	31.8	6.7	5.4
May 13.....	41.2	27.6	13.0	11.9	7.3	33.3	5.7	7.6	28.3	12.7	4.5	5.9	9.8	6.5	34.3	6.3	5.6
June 17.....	42.0	28.7	13.1	12.0	7.7	36.9	6.5	7.3	28.9	10.5	4.3	5.9	10.2	9.2	45.2	5.9	5.8
July 15.....	43.0	30.1	13.4	12.3	7.8	40.6	5.8	7.1	29.5	9.7	4.1	5.3	10.0	6.9	41.8	7.0	6.5
Aug. 12.....	42.2	31.3	13.8	12.8	8.2	42.7	4.7	7.2	35.2	9.1	4.2	5.1	9.9	4.4	34.1	9.7	5.7
Sept. 16.....	43.5	32.7	14.3	13.2	8.4	46.9	4.7	7.2	34.1	9.7	3.8	5.3	9.4	4.1	32.8	8.0	4.3
Oct. 14.....	43.4	33.8	14.5	13.4	8.7	48.7	4.9	7.5	37.5	11.9	3.5	5.7	9.4	4.1	34.5	6.8	4.3
Nov. 18.....	43.3	34.2	14.7	13.6	8.7	51.9	5.3	8.0	38.3	15.4	3.5	6.7	8.7	4.6	39.1	7.9	4.2
Dec. 16.....	42.3	34.5	14.8	13.7	8.8	49.0	5.6	7.5	30.0	11.3	4.0	7.2	12.3	5.1	40.0	7.8	4.4

Date	Fruits and vegetables							Beverages		Fats and oils						Sugar
	Canned					Dried		Coffee	Tea	Lard	Shortening, other than lard		Mayonnaise	Oleomargarine	Peanut butter	
	Peaches	Pine-apple	Corn	Peas	Tomatoes	Prunes	Navy beans				In cartons	Other containers				
								No. 2½ can	No. 2½ can	No. 2 can			No. 2 can	No. 2 can	Lb.	
1935.....	19.7	22.4	12.6	17.1	10.2	11.1	6.2	25.7	17.1	19.5	16.6	22.0	16.7	18.8	21.4	56.4
1936.....	18.5	22.1	12.0	16.1	9.5	9.9	6.7	24.3	17.2	16.4	15.1	22.1	16.8	18.5	19.1	55.8
1937.....	19.6	22.6	12.9	16.2	9.4	10.5	9.6	25.5	17.9	17.0	15.5	22.0	17.3	19.2	19.5	56.4
1938.....	18.9	22.0	11.6	15.1	8.9	9.1	6.3	23.2	17.5	13.0	12.8	20.2	17.3	17.5	18.6	53.1
1939.....	17.0	21.0	10.5	13.6	8.6	8.9	6.2	22.4	17.3	11.0	12.1	20.2	15.8	16.7	18.0	54.4
1940 average.....	17.0	20.9	10.5	13.6	8.5	9.7	6.6	21.2	17.5	9.4	11.8	19.0	20.7	15.9	17.0	52.9
Jan. 16.....	17.1	20.9	10.5	13.8	8.6	9.4	6.6	21.9	17.3	10.1	12.1	19.9	21.0	16.3	17.8	54.1
Feb. 13.....	17.1	20.9	10.5	13.7	8.5	9.5	6.6	21.9	17.4	9.7	12.1	19.6	21.0	16.2	17.9	53.4
Mar. 12.....	17.2	21.0	10.6	13.7	8.5	9.8	6.5	21.7	17.4	9.5	12.0	19.3	21.0	16.1	17.9	52.9
Apr. 16.....	17.2	21.0	10.5	13.8	8.5	9.7	6.5	21.6	17.4	9.3	11.9	19.3	21.1	16.0	17.9	52.6
May 14.....	17.2	21.0	10.5	13.8	8.5	9.8	6.6	21.5	17.4	9.5	11.9	19.2	21.0	16.0	18.1	52.3
June 18.....	17.2	20.9	10.5	13.7	8.5	9.8	6.6	21.3	17.5	9.2	11.8	19.2	20.8	16.0	18.1	52.3
July 16.....	17.2	21.0	10.5	13.7	8.5	9.8	6.6	21.3	17.5	9.3	11.8	19.2	20.7	16.0	18.0	51.7
Aug. 13.....	17.1	21.0	10.5	13.6	8.4	9.8	6.6	21.2	17.5	9.2	11.7	19.1	20.6	15.8	18.0	51.3
Sept. 17.....	16.8	20.9	10.5	13.5	8.4	9.7	6.6	20.8	17.5	9.3	11.6	18.6	20.6	15.8	17.8	51.0
Oct. 15.....	16.6	20.9	10.6	13.5	8.4	9.6	6.5	20.6	17.5	9.2	11.5	18.5	20.3	15.7	17.8	50.9
Nov. 12.....	16.6	20.9	10.6	13.3	8.4	9.7	6.5	20.5	17.6	9.1	11.4	18.4	20.2	15.7	17.8	51.0
Dec. 17.....	16.6	20.9	10.6	13.4	8.3	9.6	6.5	20.5	17.6	9.2	11.3	18.3	20.1	15.5	17.7	50.6
1941 average.....	18.6	21.5	11.4	13.6	9.1	9.8	7.4	23.6	18.4	12.7	14.5	20.5	21.6	17.1	18.4	57.1
Jan. 14.....	16.5	20.9	10.7	13.2	8.4	9.6	6.5	20.7	17.6	9.3	11.3	18.3	20.1	15.6	17.9	51.2
Feb. 18.....	16.5	21.0	10.7	13.2	8.4	9.6	6.5	20.8	17.6	9.6	11.4	18.3	20.1	15.7	17.7	51.6
Mar. 18.....	16.6	21.0	10.9	13.4	8.5	9.5	6.5	21.4	17.7	9.6	11.5	18.4	20.1	15.6	17.7	52.7
Apr. 15.....	16.6	21.0	11.0	13.4	8.5	9.4	6.6	21.9	17.7	11.1	12.0	18.7	20.1	15.7	17.8	56.2
May 13.....	17.0	21.1	11.1	13.5	8.7	9.6	6.9	22.2	17.8	11.9	12.8	19.1	20.4	16.0	17.8	57.4
June 17.....	17.5	21.2	11.4	13.6	8.9	9.7	7.3	22.9	18.0	12.9	14.1	19.9	21.0	16.4	17.9	57.7
July 15.....	18.1	21.3	11.6	13.6	9.2	9.7	7.5	23.7	18.2	13.7	15.3	20.4	21.8	16.8	18.0	57.9
Aug. 12.....	19.3	21.6	11.8	13.6	9.4	9.8	7.8	24.3	18.6	14.0	16.1	21.0	22.4	17.2	18.3	58.5
Sept. 16.....	20.7	21.9	11.8	13.7	9.6	10.0	8.0	25.7	19.1	14.6	16.9	22.0	22.9	18.0	18.9	60.0
Oct. 14.....	21.2	22.0	11.9	13.9	9.7	10.1	8.1	26.1	19.3	15.4	17.4	22.6	23.0	18.5	19.3	60.4
Nov. 18.....	21.4	22.2	12.0	14.2	9.9	10.5	8.3	26.6	19.5	14.8	17.7	23.2	23.7	19.5	19.6	60.6
Dec. 16.....	21.6	22.5	12.2	14.3	10.0	10.7	8.5	26.9	19.7	15.2	17.9	23.7	23.8	19.7	20.0	61.4

¹ Effective October 1939, vanilla cookies replaced cake in the food-cost index.

² Average retail prices of milk sold in stores were first included in index in March 1936.

³ Effective January 1940, salad dressing (pint size) replaced mayonnaise in the food-cost index.

Indexes of Food Costs by Cities, 1923 to 1941

Indexes showing the trend in food costs in each of the 51 cities included in the food-cost index are presented in table 5. These indexes provide a basis for comparing cities with respect to the direction in which food prices are moving and the rapidity of price changes, but they do not permit comparison between cities as to the level of food prices at any particular time.

In general, trends in food prices were similar in the different cities. From 1923 onward, the high point in food costs came in 1926 in all cities except a few in the South and West, where 1925 prices averaged slightly above those for 1926. In almost all cities foods reached their lowest level in 1933, and the post-depression peak occurred during 1937, when the drought added its influence to other factors working toward higher food costs. The range in average food costs over the period shown in table 5 was least in San Francisco and greatest in Birmingham. On the whole, there were only moderate differences among the cities in the extent of price variations over this period, although Southern cities tended to show a greater spread between the high and low than did those in other parts of the country.

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41
[1935-39=100]

Date	New England							Middle Atlantic			
	Boston	Bridg- port	Fall River	Man- ches- ter	New Haven	Port- land, Me.	Provi- dence	Bufo- lalo	New- ark	New York	Phil- adel- phia
1923.....	130.8	121.6	126.7	124.1	120.3	129.7	127.9	123.2	120.9	127.0	121.9
1924.....	128.3	118.4	122.7	119.1	117.6	126.4	124.6	121.0	118.6	124.3	119.3
1925.....	137.6	126.6	129.9	126.0	125.6	135.6	132.2	132.4	125.4	132.3	131.5
1926.....	142.3	131.6	135.6	132.6	131.3	142.1	136.8	139.1	128.4	135.9	137.3
1927.....	137.3	127.8	131.5	127.3	127.1	136.0	131.3	131.5	125.4	132.7	131.7
1928.....	135.9	127.0	130.6	126.5	126.9	136.2	130.9	130.1	126.5	132.0	130.8
1929.....	137.1	127.3	130.8	127.0	128.4	137.3	132.9	132.6	127.2	133.4	130.3
1930.....	131.6	120.3	122.8	120.9	121.8	128.9	125.9	125.0	120.7	126.2	123.6
1931.....	108.8	102.1	99.9	99.7	103.5	108.8	104.2	100.3	104.1	107.6	105.3
1932.....	89.3	88.1	84.6	82.9	88.2	90.9	86.6	85.7	89.3	92.5	86.5
1933.....	86.3	85.0	82.5	82.6	84.2	88.3	85.0	83.6	83.6	88.4	83.5
1934.....	95.0	94.3	92.6	91.7	94.0	97.2	93.6	92.0	93.3	97.3	96.4
1935 average.....	101.0	100.5	98.8	99.9	100.0	100.9	100.1	100.7	98.7	100.6	100.1
Jan. 15.....	98.4	98.3	95.8	96.2	96.1	96.5	96.0	95.5	98.7	102.7	99.0
Feb. 12.....	101.8	100.1	98.4	99.2	102.3	99.4	100.0	99.1	98.5	101.1	100.3
Mar. 12.....	101.6	99.2	97.8	99.5	97.2	99.3	99.4	98.9	97.8	99.4	98.2
Apr. 9.....	102.6	98.5	99.2	99.3	100.5	101.7	101.0	103.8	99.7	102.5	101.4
May 21.....	101.2	100.2	99.4	99.7	101.1	101.5	100.2	102.3	99.9	100.9	99.6
June 18.....	101.1	100.3	98.0	100.7	99.1	101.9	99.7	102.0	97.7	99.8	98.6
July 16.....	99.9	99.8	98.1	100.4	98.4	101.8	99.7	100.7	99.0	98.4	99.3
Aug. 13.....	100.5	100.3	97.5	99.3	98.9	101.3	99.4	100.2	99.1	98.6	99.8
Sept. 10.....	101.5	101.6	99.2	100.6	101.1	102.3	101.9	101.5	99.5	100.1	100.5
Oct. 8.....	100.0	102.1	100.0	100.0	100.4	100.9	100.3	100.3	97.4	99.3	100.2
Nov. 19.....	100.6	102.6	101.1	101.9	102.4	101.7	101.3	101.1	98.3	101.2	102.5
Dec. 17.....	102.3	103.2	101.3	101.8	102.9	102.4	102.1	102.4	99.3	103.0	102.2
1936 average.....	101.2	101.1	100.7	101.9	101.4	101.1	101.4	101.4	100.8	101.0	102.5
Jan. 14.....	101.5	102.6	100.4	101.7	101.7	101.0	100.7	101.8	98.9	102.9	102.5
Feb. 11.....	100.6	99.9	98.9	100.6	99.6	99.7	99.7	99.7	100.3	100.8	100.2
Mar. 10.....	99.2	98.4	98.2	100.1	98.7	99.4	99.0	99.1	98.3	98.5	99.0
Apr. 21.....	100.3	98.0	98.7	100.4	99.0	98.4	99.0	99.1	98.5	99.4	100.1
May 19.....	99.7	98.3	97.6	99.1	98.8	98.0	98.7	98.9	98.0	98.9	99.0
June 16.....	103.7	101.2	101.5	104.5	102.3	102.7	102.3	104.2	100.8	101.7	104.1
July 14.....	104.2	102.7	102.5	104.5	102.9	103.8	102.9	104.6	102.4	101.9	103.6
Aug. 18.....	103.2	103.2	101.9	104.0	102.8	104.0	102.3	102.8	103.6	103.0	105.0
Sept. 15.....	102.6	104.7	103.2	103.3	104.3	103.2	104.0	102.9	104.6	103.9	104.8
Oct. 13.....	100.6	102.0	101.9	102.2	103.0	101.4	103.9	102.6	102.0	101.1	104.4
Nov. 17.....	99.8	100.9	101.1	101.4	101.2	100.7	102.3	100.6	101.3	100.1	103.6
Dec. 15.....	99.4	101.6	101.9	101.0	102.3	101.1	101.9	101.0	100.6	99.9	103.6

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	New England						Middle Atlantic				
	Boston	Bridgeport	Fall River	Manchester	New Haven	Portland, Me.	Providence	Buffalo	Newark	New York	Philadelphia
1937 average	104.7	105.3	106.0	104.2	105.8	105.5	105.9	104.7	105.4	104.1	105.7
Jan. 12	101.8	103.2	103.9	104.3	103.6	102.5	104.2	102.1	102.3	101.1	105.4
Feb. 16	99.4	102.3	103.9	103.1	104.0	101.7	104.5	102.4	102.4	102.8	104.1
Mar. 16	102.8	103.4	104.5	104.8	104.9	102.8	104.6	104.0	104.5	103.3	105.7
Apr. 13	102.9	102.7	104.9	103.5	104.7	104.3	105.4	105.1	104.5	103.1	105.4
May 18	105.3	105.9	106.0	105.4	105.8	105.7	105.8	107.3	105.5	103.7	106.7
June 15	105.1	106.3	106.5	105.8	106.5	107.0	105.7	106.5	105.8	102.7	106.6
July 13	106.2	107.0	107.2	105.1	107.4	108.0	106.8	105.4	105.8	103.7	107.6
Aug. 17	107.0	106.9	107.5	105.1	107.4	108.7	107.2	105.9	106.2	104.4	108.4
Sept. 14	109.9	109.4	108.8	105.8	108.7	109.2	108.8	105.9	108.7	108.0	108.6
Oct. 12	107.8	107.6	108.4	104.4	107.9	107.8	108.8	106.0	108.7	106.4	106.7
Nov. 16	105.7	105.4	106.3	102.6	105.5	104.9	106.1	103.0	106.6	105.0	101.4
Dec. 14	102.6	103.2	104.2	100.5	103.7	103.6	102.5	102.5	103.4	104.4	102.2
1938 average	97.8	98.3	98.5	97.9	98.1	97.6	97.7	97.4	98.4	97.8	97.2
Jan. 12	100.2	99.6	101.1	98.4	99.2	99.8	98.4	100.6	100.4	99.7	99.6
Feb. 15	97.2	97.3	98.1	97.1	97.9	96.8	95.7	96.8	97.6	97.1	97.0
Mar. 15	96.9	98.2	97.4	97.4	97.8	97.0	96.6	97.9	97.6	97.0	97.1
Apr. 12	97.6	98.8	98.4	97.4	98.9	96.1	97.1	98.4	98.5	97.3	98.4
May 17	96.8	98.2	97.6	98.3	97.6	96.1	97.2	98.2	98.4	96.2	98.2
June 14	98.2	98.9	98.7	98.9	98.5	98.1	98.4	97.0	98.0	97.1	98.2
July 12	99.4	100.6	99.8	99.7	99.9	100.1	100.5	96.9	100.0	98.1	98.0
Aug. 16	98.6	99.0	99.0	99.3	98.2	99.1	99.5	95.2	98.8	98.3	97.5
Sept. 13	98.9	98.1	98.3	97.8	98.3	99.1	98.8	96.4	98.5	98.9	97.3
Oct. 13	97.6	97.6	98.0	97.2	97.9	96.7	98.1	96.7	97.9	98.4	95.9
Nov. 15	95.9	96.1	97.6	97.2	96.1	95.9	96.2	96.6	97.1	97.2	94.3
Dec. 13	96.4	96.7	98.1	96.4	97.1	96.3	96.2	98.0	98.4	98.6	95.3
1939 average	95.3	94.8	96.0	96.1	94.7	95.1	94.9	95.9	96.7	96.5	94.4
Jan. 17	96.9	95.2	96.7	95.7	95.0	95.3	95.2	95.5	97.0	97.1	94.3
Feb. 14	95.4	94.4	95.2	95.0	93.3	94.3	93.4	95.7	95.8	96.5	93.8
Mar. 14	95.3	94.4	95.6	94.6	93.7	93.7	93.2	93.7	95.5	96.6	93.9
Apr. 13	95.8	94.4	96.2	95.3	94.1	92.9	94.8	94.4	96.5	94.0	93.8
May 16	94.2	94.3	95.5	94.8	94.0	93.6	93.4	94.9	96.1	94.2	94.4
June 13	94.4	94.9	94.0	95.1	93.9	93.6	93.8	94.8	95.6	93.7	93.7
July 15	96.0	94.8	96.3	96.9	95.0	96.2	94.9	96.0	96.0	95.3	93.7
Aug. 15	93.5	93.2	95.4	94.9	93.7	95.9	93.7	94.5	95.6	95.8	93.0
Sept. 19	98.1	97.8	97.9	99.8	98.5	99.1	99.7	100.0	100.0	100.6	96.7
Oct. 17	95.4	95.9	97.4	98.4	95.9	96.9	97.2	97.8	97.4	98.6	97.4
Nov. 14	95.7	95.8	96.7	97.6	95.4	96.4	96.2	96.8	97.6	99.2	94.1
Dec. 12	92.8	93.0	95.3	95.0	93.5	93.5	93.3	94.3	96.0	97.1	94.2
1940 average	96.2	96.7	97.4	97.9	96.0	96.2	97.2	98.2	98.6	98.6	94.1
Jan. 16	93.8	94.6	95.3	96.3	93.5	93.7	94.5	96.7	96.1	97.2	92.1
Feb. 13	96.9	96.7	96.9	98.6	96.1	95.4	96.3	97.9	98.2	99.2	93.8
Mar. 12	95.9	96.2	96.8	97.8	95.3	94.4	96.3	96.6	99.3	99.8	93.2
Apr. 16	97.8	96.9	98.0	98.4	96.1	94.9	97.1	96.1	98.6	98.9	94.2
May 14	96.9	97.5	98.4	98.4	97.3	97.1	98.3	99.4	99.1	98.4	94.8
June 18	98.9	98.5	100.3	99.8	98.6	98.4	99.5	100.1	101.0	101.2	95.9
July 16	98.1	98.1	99.2	99.4	97.2	98.6	98.7	99.6	100.2	98.8	95.7
Aug. 13	95.7	96.7	98.3	96.5	96.2	96.6	96.5	97.8	98.5	98.0	94.2
Sept. 17	96.8	97.7	97.9	98.7	97.2	97.6	99.2	96.7	99.4	99.1	93.8
Oct. 15	94.9	95.4	96.5	97.0	95.0	96.4	97.2	97.2	97.5	97.0	93.5
Nov. 12	93.5	95.3	96.3	96.2	94.4	95.4	96.2	97.4	97.1	97.4	93.6
Dec. 17	94.7	96.3	97.1	97.2	95.4	96.0	96.7	98.9	98.2	98.6	94.8
1941 average	103.2	104.9	104.9	104.8	103.9	103.8	104.6	108.5	105.7	106.0	102.4
Jan. 14	95.2	96.5	97.5	96.6	95.7	95.3	96.3	100.2	98.8	99.5	95.0
Feb. 15	96.2	96.4	98.4	96.7	96.1	96.0	97.3	100.3	100.2	100.4	94.9
Mar. 13	96.1	96.8	98.4	97.2	96.3	95.9	97.0	100.8	99.2	99.8	95.2
Apr. 15	98.3	100.6	100.4	99.5	99.8	98.6	99.2	103.2	101.9	101.6	97.0
May 13	99.5	102.3	102.2	101.3	101.4	100.7	101.1	106.0	102.7	102.3	100.1
June 17	102.6	106.6	106.0	104.6	105.8	104.2	104.5	110.1	106.9	106.7	103.3
July 15	104.7	107.6	107.5	107.1	105.9	106.3	107.0	110.8	106.1	107.0	103.3
Aug. 12	107.3	108.4	107.1	108.4	107.2	107.9	108.9	111.8	108.0	108.7	104.7
Sept. 16	108.4	110.1	109.5	110.4	108.5	109.2	110.8	114.1	109.4	109.8	107.5
Oct. 14	108.5	109.9	110.1	110.9	108.3	109.3	110.9	114.4	111.2	111.4	109.0
Nov. 13	111.5	111.5	111.7	112.8	110.5	111.2	112.1	115.2	111.9	113.1	108.7
Dec. 16	110.1	111.9	110.5	111.7	111.1	110.7	110.2	115.4	112.1	112.5	109.8

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	Middle Atlantic			East North Central						
	Pitts- burgh	Roch- ester	Scrant- on	Chi- cago	Cincin- nati	Cleve- land	Col- um- bus	De- troit	Indi- anap- olis	Mil- wau- kee
1923.....	125.2	124.7	131.0	119.8	119.9	124.1	121.1	124.0	126.0	120.2
1924.....	124.0	122.2	127.4	121.2	118.8	121.9	122.8	122.4	124.8	121.3
1925.....	133.9	133.3	139.1	130.6	132.3	132.7	132.6	134.5	134.9	127.3
1926.....	138.9	139.9	143.9	135.7	139.1	138.9	139.1	140.1	143.2	134.0
1927.....	134.1	131.5	138.4	131.7	132.5	132.3	132.9	134.3	135.5	128.9
1928.....	132.8	131.3	138.7	131.0	131.6	130.9	120.0	131.2	133.9	127.8
1929.....	135.4	131.8	140.6	133.2	135.6	131.1	131.5	133.9	133.3	131.6
1930.....	126.5	124.6	132.0	127.9	133.1	124.2	128.3	124.4	132.5	125.5
1931.....	102.9	100.3	107.4	106.3	108.2	99.2	102.5	107.3	104.6	102.7
1932.....	83.9	84.6	88.7	87.5	83.9	82.4	83.6	78.8	85.5	87.1
1933.....	81.6	83.0	87.2	82.4	83.4	81.8	83.3	80.5	84.4	84.6
1934.....	92.3	93.3	95.7	89.6	92.1	91.2	94.0	91.3	93.0	92.6
1935 average.....	100.2	99.1	100.2	100.0	102.5	100.3	103.2	99.5	100.6	99.0
Jan. 15.....	98.8	94.6	97.8	95.9	95.8	95.7	97.2	97.0	96.9	94.7
Feb. 12.....	100.8	98.3	100.5	99.5	101.4	100.4	102.1	97.7	99.3	98.6
Mar. 12.....	98.5	98.3	98.8	100.2	101.5	99.6	102.0	98.6	98.2	98.3
Apr. 9.....	101.5	101.1	100.5	100.9	103.1	102.8	105.1	101.0	101.1	100.5
May 21.....	100.9	100.5	101.4	100.2	103.1	102.5	104.9	101.1	100.7	100.3
June 18.....	101.0	100.1	100.5	98.9	104.4	102.9	104.5	101.0	101.6	99.6
July 16.....	99.1	98.7	99.7	100.2	102.4	99.7	103.1	99.6	99.6	97.9
Aug. 13.....	98.1	98.6	98.6	100.9	103.2	99.4	103.7	97.5	100.8	98.6
Sept. 10.....	100.5	99.2	100.2	100.9	103.9	100.7	103.1	98.8	101.8	98.7
Oct. 8.....	100.3	98.7	99.8	99.7	103.4	100.2	103.7	99.4	101.5	98.9
Nov. 19.....	101.6	100.0	102.5	100.2	104.1	99.6	104.2	100.8	102.6	100.4
Dec. 17.....	101.3	101.4	102.3	101.9	104.3	100.5	104.1	100.9	103.3	101.4
1936 average.....	101.4	101.5	102.5	101.4	103.5	100.6	103.9	101.8	101.9	101.5
Jan. 14.....	100.6	100.5	101.8	100.9	103.9	99.4	103.2	101.0	102.7	99.7
Feb. 11.....	99.3	98.5	101.0	100.3	102.7	99.3	102.6	100.6	100.6	101.2
Mar. 10.....	97.6	98.2	99.3	98.7	100.2	98.3	100.2	99.1	98.2	98.4
Apr. 21.....	97.7	98.2	99.1	97.9	99.9	97.5	98.4	98.2	98.1	98.0
May 19.....	98.1	99.6	99.0	97.4	100.8	96.8	100.3	98.2	97.9	98.4
June 16.....	103.3	103.5	103.3	100.6	103.9	100.8	105.2	103.6	101.3	100.4
July 14.....	103.4	104.0	103.9	102.0	106.0	102.5	106.8	104.0	102.3	102.7
Aug. 13.....	106.0	103.6	105.1	104.2	107.0	104.3	108.6	106.6	104.8	105.7
Sept. 15.....	105.6	105.2	105.8	106.0	108.8	105.6	108.3	105.5	105.6	106.1
Oct. 13.....	103.3	103.5	104.5	103.6	105.1	104.3	107.0	103.0	104.3	104.3
Nov. 17.....	100.5	101.6	103.2	102.9	102.1	99.3	103.2	101.1	103.1	102.3
Dec. 15.....	101.6	101.8	103.6	101.8	101.5	99.2	103.0	101.1	103.7	102.2
1937 average.....	106.4	105.8	105.5	106.1	105.5	104.1	104.6	106.8	106.5	107.0
Jan. 12.....	103.9	102.6	104.4	103.2	103.8	99.6	103.1	103.4	104.0	105.1
Feb. 16.....	103.0	103.4	104.1	103.4	105.4	101.1	103.8	103.6	105.1	105.3
Mar. 16.....	105.6	104.6	104.9	104.9	106.4	102.4	105.1	106.1	106.2	105.9
Apr. 13.....	105.5	105.8	105.3	105.4	105.3	103.1	104.6	108.2	106.9	106.2
May 18.....	107.4	108.3	107.9	106.6	107.1	105.2	105.4	107.9	107.3	107.6
June 15.....	107.5	108.9	107.2	107.3	107.0	106.0	105.1	109.3	109.3	109.6
July 13.....	108.3	107.0	107.7	108.2	106.1	106.6	105.6	110.1	107.8	108.3
Aug. 17.....	109.4	107.3	108.0	109.2	106.8	107.1	105.3	109.5	109.0	109.4
Sept. 14.....	109.5	106.8	107.9	109.6	107.4	107.2	105.6	109.2	108.1	109.0
Oct. 12.....	107.7	106.4	105.8	107.9	105.6	106.3	105.9	106.5	107.2	108.8
Nov. 16.....	106.2	104.3	101.5	104.4	103.0	104.1	102.8	104.0	103.9	105.6
Dec. 14.....	102.8	103.9	101.0	102.9	101.7	100.6	102.4	103.8	102.6	103.7
1938 average.....	98.5	98.6	97.1	97.8	96.2	98.6	96.0	98.2	97.6	98.6
Jan. 18.....	100.0	100.5	98.2	99.4	99.0	98.9	100.4	100.4	99.8	101.0
Feb. 15.....	97.0	98.2	96.8	96.1	96.2	96.5	97.3	100.0	97.2	98.3
Mar. 15.....	98.1	98.0	98.0	97.3	96.0	97.3	96.8	99.7	97.3	99.6
Apr. 12.....	99.5	100.6	100.0	99.8	95.9	98.4	95.8	101.1	97.4	100.6
May 17.....	99.2	100.6	99.9	98.0	95.6	98.3	95.9	99.0	98.3	101.3
June 14.....	99.4	101.5	99.1	99.2	97.3	99.7	97.1	99.8	98.4	101.6
July 12.....	100.5	100.9	99.1	98.4	97.0	101.0	95.9	99.1	98.4	99.3
Aug. 16.....	98.2	97.7	95.2	97.4	95.9	99.1	94.6	95.3	97.2	96.0
Sept. 13.....	99.0	96.2	95.0	99.0	96.9	100.1	95.6	96.7	97.9	97.7
Oct. 18.....	97.5	96.1	94.5	97.2	95.6	98.1	94.9	95.7	96.9	95.5
Nov. 15.....	96.7	95.9	93.4	95.6	94.8	96.6	93.4	95.3	96.3	95.9
Dec. 13.....	97.1	97.3	95.9	96.3	94.1	99.4	94.8	96.0	95.9	96.8

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	Middle Atlantic			East North Central						
	Pitts- burgh	Roch- ester	Scr- an- ton	Chi- ago	Cincin- nati	Cleve- land	Co- lum- bus	De- troit	Indi- anap- olis	Mil- wau- kee
1939 average.....	93.5	94.9	94.8	94.9	92.3	96.3	92.3	93.7	93.5	93.7
Jan. 17.....	95.0	95.6	94.1	95.4	93.4	97.0	93.8	95.0	94.5	94.9
Feb. 14.....	91.1	95.1	93.8	94.1	91.0	96.4	93.4	94.6	93.7	94.3
Mar. 14.....	90.8	94.1	93.6	93.5	92.0	96.5	94.5	94.0	94.0	94.2
Apr. 18.....	91.7	93.2	93.6	94.2	91.8	95.7	92.1	92.8	92.1	93.2
May 16.....	92.6	93.9	94.4	94.1	91.1	95.5	90.6	91.5	91.8	93.6
June 13.....	92.7	93.5	93.1	93.1	90.3	96.1	89.0	92.4	92.2	92.6
July 15.....	93.1	93.7	93.9	93.7	91.7	96.0	89.0	91.9	91.4	92.7
Aug. 15.....	92.5	92.3	92.1	92.3	90.4	93.6	88.1	90.6	90.7	91.1
Sept. 19.....	97.1	98.1	99.0	97.4	95.4	98.9	94.7	96.2	96.0	96.2
Oct. 17.....	96.3	97.4	97.5	98.6	94.9	98.0	94.8	96.5	96.4	93.3
Nov. 14.....	95.4	96.4	97.0	97.6	94.1	96.7	95.1	95.3	94.9	95.1
Dec. 12.....	93.3	96.0	95.1	94.6	91.7	95.7	92.5	94.1	94.0	92.7
1940 average.....	96.2	98.9	97.3	96.7	94.3	97.7	92.4	95.7	95.8	95.0
Jan. 16.....	94.0	96.5	96.2	93.8	92.8	95.8	93.0	92.4	93.9	93.0
Feb. 13.....	96.3	98.0	96.9	95.9	94.0	97.1	94.9	95.1	95.9	94.6
Mar. 12.....	93.8	97.2	96.4	94.2	92.6	95.9	92.0	94.5	94.0	92.8
Apr. 16.....	94.7	98.7	97.6	96.4	92.7	96.1	91.3	96.4	95.4	93.8
May 14.....	96.8	100.3	98.3	98.3	94.4	97.1	92.9	96.6	95.6	96.8
June 18.....	98.0	101.6	98.3	99.6	94.4	99.0	94.0	98.3	96.6	98.1
July 16.....	97.4	100.1	98.1	97.8	95.0	98.8	91.8	97.2	95.3	96.7
Aug. 13.....	95.4	98.8	95.5	96.7	94.1	98.4	90.1	95.3	95.3	95.5
Sept. 17.....	97.0	99.5	97.1	97.6	96.6	100.4	92.1	96.0	96.7	95.1
Oct. 15.....	96.6	97.5	96.6	97.1	94.5	97.8	91.3	95.5	95.9	94.6
Nov. 12.....	96.3	98.3	97.1	95.9	94.5	96.7	91.4	94.8	96.5	94.3
Dec. 17.....	97.8	100.1	99.1	97.2	95.8	98.7	94.0	95.8	98.8	95.1
1941 average.....	106.2	106.9	104.9	106.2	105.0	107.7	102.2	104.9	106.3	104.0
Jan. 14.....	98.0	99.9	97.5	98.2	96.5	99.2	93.4	97.0	98.2	95.9
Feb. 13.....	97.5	96.8	97.7	97.9	96.5	99.3	93.2	97.2	97.9	95.4
Mar. 13.....	98.5	100.1	97.6	98.4	97.6	100.3	94.0	98.4	98.8	96.3
Apr. 15.....	101.1	103.1	100.4	100.5	100.1	102.1	96.9	101.3	101.1	99.2
May 13.....	103.6	105.0	102.9	101.9	100.9	103.4	98.6	100.7	103.5	101.1
June 17.....	107.3	108.6	105.2	105.8	104.8	107.8	102.9	107.0	106.5	106.5
July 15.....	108.7	109.7	106.8	107.5	104.8	108.7	104.5	107.2	106.9	106.8
Aug. 12.....	109.0	110.2	108.8	108.1	109.0	112.1	104.4	107.1	108.5	107.1
Sept. 16.....	111.9	111.1	110.3	114.0	110.0	114.1	107.6	108.9	111.3	109.2
Oct. 14.....	118.8	111.1	109.8	113.5	112.6	114.0	100.2	111.1	112.6	109.2
Nov. 18.....	112.9	112.1	109.5	114.8	114.3	116.4	110.4	112.0	114.9	111.3
Dec. 16.....	113.7	112.2	111.8	113.2	112.7	115.0	111.1	111.4	115.2	110.5

Date	East North Central		West North Central					South Atlantic		
	Peoria	Spring- field, Ill.	Kan- sas City	Min- nep- olis	Omaha	St. Louis	St. Paul	At- lanta	Balti- more	Char- les- ton, S. C.
1923.....	117.9	121.4	119.2	114.9	122.0	113.8	120.4	130.8	118.2	121.4
1924.....	119.9	123.9	119.3	113.9	122.1	114.5	119.7	129.1	117.1	121.7
1925.....	131.7	133.8	131.7	122.5	134.2	127.4	128.6	146.1	127.0	132.3
1926.....	136.6	139.5	135.5	129.1	138.4	132.2	136.3	154.2	132.5	138.5
1927.....	131.9	133.4	127.4	123.1	130.9	127.1	129.3	145.8	125.8	128.6
1928.....	126.3	130.0	126.2	122.0	126.7	123.7	126.7	141.9	123.3	126.3
1929.....	128.6	131.7	129.8	125.0	128.8	128.1	128.3	141.8	124.1	128.0
1930.....	124.8	127.5	124.5	119.5	123.8	121.9	122.4	134.2	119.2	124.9
1931.....	97.7	99.0	102.3	98.4	99.0	98.2	100.2	106.7	99.4	103.4
1932.....	81.8	81.7	84.2	80.3	81.4	80.4	82.5	86.1	83.0	84.9
1933.....	81.8	81.9	83.3	78.4	79.6	79.9	81.2	84.7	81.5	80.6
1934.....	91.0	89.9	93.0	91.0	91.2	89.6	93.8	95.2	91.3	89.7
1935 average.....	100.4	100.2	101.4	99.2	103.5	99.7	101.1	102.2	99.8	99.2
Jan. 15.....	95.9	94.7	98.1	96.3	99.8	95.9	98.4	100.8	95.6	94.9
Feb. 12.....	97.4	98.2	101.7	99.8	104.0	99.3	101.2	101.8	98.8	97.5
Mar. 12.....	98.9	99.2	100.4	98.4	103.0	98.5	100.7	99.5	98.6	96.3
Apr. 9.....	100.1	100.7	102.8	101.7	105.3	100.2	102.6	100.3	100.0	98.3
May 21.....	101.3	100.4	108.7	100.5	105.6	100.4	102.7	100.5	100.9	98.3
June 18.....	101.6	100.8	100.4	100.1	105.1	101.4	102.2	101.0	102.5	99.3

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	East North Central		West North Central					South Atlantic		
	Peoria	Springfield, Ill.	Kansas City	Minneapolis	Omaha	St. Louis	St. Paul	Atlanta	Baltimore	Charleston, S. C.
1935—Continued.										
July 16.....	101.6	101.0	98.5	97.4	102.9	100.0	100.6	100.1	100.7	98.4
Aug. 13.....	100.8	101.4	99.6	98.0	103.2	99.5	99.6	102.1	98.7	99.7
Sept. 10.....	102.2	102.6	101.4	97.8	103.4	101.5	99.9	104.8	99.6	102.2
Oct. 8.....	101.8	100.8	100.5	98.6	102.9	98.2	100.5	104.8	99.8	101.6
Nov. 19.....	101.1	101.3	102.4	101.1	103.7	100.3	102.2	104.5	100.2	101.7
Dec. 17.....	102.3	101.8	102.4	101.0	103.1	101.6	102.6	106.6	102.0	102.7
1936 average										
Jan. 14.....	101.1	100.7	101.2	100.8	101.9	101.2	101.0	102.2	100.9	101.6
Feb. 11.....	101.4	99.4	100.8	100.6	101.2	101.2	100.9	104.4	100.8	101.9
Mar. 10.....	99.9	98.4	99.7	100.8	100.9	99.9	101.5	101.3	100.2	99.5
Apr. 21.....	98.4	97.1	97.7	98.8	98.5	98.3	99.4	97.4	98.6	98.5
May 19.....	97.7	96.0	96.8	96.8	98.4	97.6	97.1	97.8	98.8	98.9
June 16.....	97.7	96.2	96.9	96.0	98.1	97.3	97.0	98.2	99.0	97.8
July 14.....	101.1	100.7	101.2	100.8	101.9	101.2	101.0	102.2	100.9	101.6
Aug. 18.....	101.4	99.4	100.8	100.6	101.2	101.2	100.9	104.4	100.8	101.9
Sept. 15.....	103.9	105.6	106.4	104.8	105.4	106.5	103.9	105.7	103.6	103.8
Oct. 13.....	101.9	103.3	103.8	102.7	104.0	102.8	103.1	104.8	101.4	103.8
Nov. 17.....	101.6	103.2	102.8	103.1	103.6	101.6	102.4	103.7	100.3	102.6
Dec. 15.....	102.4	102.8	102.2	102.9	103.5	101.3	102.7	103.8	100.3	103.6
1937 average										
Jan. 12.....	104.6	105.9	105.6	104.9	105.4	105.2	104.4	105.7	104.3	104.3
Feb. 16.....	103.4	103.9	104.4	104.0	103.5	103.8	103.6	104.9	103.1	103.6
Mar. 16.....	103.9	105.2	105.2	104.0	103.7	103.7	103.0	105.7	102.7	104.5
Apr. 13.....	104.4	105.5	106.2	104.4	104.7	105.2	104.1	106.4	104.2	104.6
May 18.....	105.7	106.9	105.8	105.2	105.4	104.8	104.6	105.5	104.5	104.8
June 15.....	105.9	106.8	106.9	105.3	106.1	106.8	105.5	106.0	106.0	104.6
July 13.....	107.0	106.6	107.5	105.7	106.2	106.5	106.2	106.3	104.9	104.3
Aug. 17.....	105.4	108.7	106.7	106.6	106.3	106.9	105.7	106.8	105.8	105.6
Sept. 14.....	106.1	107.2	107.9	106.3	106.4	107.0	104.9	107.6	105.7	104.4
Oct. 12.....	105.8	107.3	106.9	105.5	105.1	106.8	103.7	107.7	105.8	105.3
Nov. 16.....	104.9	106.2	104.9	105.0	104.1	105.2	103.7	107.0	103.6	105.1
Dec. 14.....	101.6	103.5	103.0	104.2	102.3	103.7	104.4	102.6	102.7	102.9
1938 average.....	101.0	102.5	101.5	102.4	101.0	102.2	102.9	101.4	102.1	101.4
1938 average										
Jan. 18.....	97.8	97.7	97.5	97.9	95.4	98.2	97.5	95.6	98.3	98.5
Feb. 15.....	98.3	97.9	99.6	99.1	96.8	100.2	99.2	98.7	100.1	99.8
Mar. 15.....	97.3	95.5	98.2	96.9	95.7	97.2	97.1	96.3	98.2	99.1
Apr. 17.....	96.6	96.4	96.7	97.4	96.3	98.3	97.5	94.7	98.2	97.4
May 17.....	97.9	98.5	97.8	97.8	97.4	98.1	97.6	94.2	99.0	98.1
June 14.....	98.3	98.7	97.4	97.8	95.9	97.8	97.7	94.5	98.5	97.7
July 12.....	100.5	100.3	98.2	98.8	97.2	98.9	98.5	94.5	98.6	97.9
Aug. 16.....	99.3	98.7	97.5	99.0	97.1	99.0	97.9	93.9	98.7	98.8
Sept. 13.....	97.6	96.8	96.8	96.9	94.2	98.2	96.5	94.7	96.8	98.4
Oct. 18.....	98.2	97.9	97.6	98.4	93.6	99.5	97.5	96.5	98.5	99.0
Nov. 15.....	96.2	97.6	97.7	97.3	93.2	97.2	96.4	96.6	97.7	98.6
Dec. 13.....	96.5	96.8	96.8	97.5	93.2	96.5	96.9	95.9	97.0	97.7
1939 average.....	97.2	96.9	96.1	98.1	93.8	97.1	97.4	96.5	97.8	99.1
1939 average										
Jan. 17.....	96.0	95.5	94.3	97.2	94.7	95.7	96.1	94.3	96.7	96.4
Feb. 14.....	95.6	94.3	94.1	96.2	92.2	96.6	95.4	95.3	97.0	97.4
Mar. 14.....	95.3	94.6	94.0	96.4	92.1	95.8	95.5	93.7	96.6	95.2
Apr. 18.....	95.1	94.8	94.0	96.2	92.4	96.1	95.1	94.5	96.5	95.4
May 16.....	95.3	94.0	95.2	96.1	93.8	96.0	95.0	93.0	98.1	95.4
June 13.....	96.1	94.3	93.7	97.0	94.6	94.6	96.1	91.5	96.6	94.4
July 15.....	95.8	95.1	92.8	96.4	94.2	93.1	95.5	92.7	96.1	94.4
Aug. 18.....	95.1	94.4	92.4	95.8	92.4	93.1	94.8	93.4	97.1	96.1
Sept. 19.....	93.4	94.1	91.5	95.0	92.3	93.8	94.3	92.5	94.7	95.1
Oct. 17.....	98.9	99.4	97.6	99.5	99.8	98.8	98.0	98.3	99.4	99.8
Nov. 14.....	97.7	97.4	97.1	99.9	98.9	98.1	97.9	97.1	98.0	98.5
Dec. 12.....	97.6	97.2	95.5	99.7	97.9	97.3	98.9	96.4	95.8	97.7
1940 average.....	96.2	96.1	93.4	98.0	95.5	95.1	96.4	93.6	94.6	97.4
1940 average										
Jan. 16.....	97.8	96.2	91.8	97.2	96.9	96.8	95.9	94.2	96.6	95.9
Feb. 13.....	95.8	94.8	94.0	97.5	95.5	95.7	95.8	94.1	94.1	95.8
Mar. 12.....	97.1	96.6	93.9	98.8	96.5	98.1	97.3	97.7	97.0	97.5
Apr. 16.....	95.0	93.0	91.2	97.1	94.3	95.2	93.3	96.0	96.6	95.7
May 14.....	96.3	95.4	91.6	94.9	95.3	95.1	94.6	92.7	97.7	95.1
June 18.....	99.4	97.4	92.3	95.7	98.3	96.7	96.0	93.1	99.1	95.2
1941 average.....	100.1	98.2	92.9	97.9	98.3	97.5	97.2	93.2	98.7	95.8

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	East North Central		West North Central					South Atlantic		
	Peoria	Springfield, Ill.	Kansas City	Minneapolis	Omaha	St. Louis	St. Paul	Atlanta	Baltimore	Charleston, S. C.
1940—Continued.										
July 16.....	98.4	97.1	91.4	96.2	97.2	97.1	95.6	93.1	97.8	96.6
Aug. 13.....	97.7	96.6	89.2	95.4	96.7	96.1	94.2	92.2	94.6	95.5
Sept. 17.....	98.7	97.7	90.0	97.1	97.3	96.9	95.0	94.7	96.4	96.3
Oct. 15.....	98.4	95.6	90.6	97.2	97.5	97.0	95.5	94.9	95.4	96.0
Nov. 12.....	97.6	94.9	91.6	97.5	96.9	96.3	96.9	93.4	95.3	95.1
Dec. 17.....	99.3	97.3	92.9	100.8	98.7	99.3	99.8	95.2	96.8	96.3
1941 average.....										
Jan. 14.....	99.0	96.2	92.4	99.0	97.9	99.2	98.6	94.3	97.9	95.9
Feb. 18.....	99.4	96.5	93.6	100.5	97.3	99.3	98.6	95.8	98.3	95.9
Mar. 18.....	100.3	97.0	94.8	100.2	97.4	99.5	98.0	96.7	99.1	96.1
Apr. 15.....	103.5	100.3	97.4	101.5	100.4	101.4	99.6	99.7	101.5	98.2
May 13.....	104.0	100.8	97.9	103.1	101.9	102.4	101.5	99.0	103.7	100.0
June 17.....	108.2	105.6	101.3	107.4	104.6	107.2	104.3	103.4	108.7	103.5
July 15.....	110.2	106.7	101.2	108.2	103.4	108.5	103.9	105.2	108.6	107.6
Aug. 12.....	111.0	107.4	101.8	110.0	105.7	109.4	104.7	107.0	109.6	107.9
Sept. 16.....	115.2	111.9	107.3	112.0	108.2	114.5	108.2	110.0	113.1	111.0
Oct. 14.....	114.7	112.8	107.1	112.5	108.0	114.6	109.3	112.2	113.6	112.6
Nov. 18.....	116.1	115.7	109.6	112.9	109.4	117.0	111.4	111.1	114.3	113.1
Dec. 16.....	116.7	115.8	109.7	111.9	110.5	117.5	111.5	111.1	116.1	115.1

Date	South Atlantic					East South Central				West South Central
	Jacksonville	Norfolk	Richmond	Savannah	Washington, D. C.	Birmingham	Louisville	Memphis	Mobile	Dallas
1923.....										
1924.....	129.3	123.3	131.5	123.7	126.5	137.2	115.3	128.3	130.0	127.1
1925.....	129.7	122.2	127.7	121.1	124.3	136.3	115.6	126.8	129.1	129.2
1926.....	141.9	137.0	140.9	136.7	132.7	152.4	131.0	140.3	142.0	137.8
1927.....	153.3	145.1	147.6	144.7	139.7	159.3	137.8	145.5	149.6	137.7
1928.....	139.0	139.4	137.2	135.7	132.5	149.1	130.5	136.9	142.6	135.5
1929.....	133.5	136.1	134.6	133.0	133.1	144.3	129.6	133.2	138.9	136.1
1929.....										
1930.....	131.8	138.0	133.9	133.4	134.6	143.5	132.9	138.0	136.5	137.2
1931.....	128.3	131.9	129.5	126.5	127.9	138.5	125.4	132.4	132.5	130.2
1932.....	104.8	105.2	103.6	103.0	108.3	106.4	98.1	103.1	106.4	104.4
1933.....	84.8	88.6	85.4	84.1	89.2	86.3	80.8	86.8	85.5	85.1
1934.....	81.9	82.7	83.8	82.7	87.9	85.0	82.9	85.1	83.1	84.1
1934.....	93.0	93.9	94.4	92.1	96.5	94.3	93.2	96.1	92.2	94.2
1935 average.....										
Jan. 15.....	99.9	101.6	101.5	99.8	102.6	102.2	103.8	103.3	100.2	103.7
Feb. 12.....	98.9	98.0	97.8	96.6	102.0	99.9	100.9	101.5	97.1	100.3
Mar. 12.....	98.5	101.5	102.1	99.0	102.7	102.3	101.6	106.3	99.5	104.7
Apr. 9.....	96.7	100.6	98.9	98.4	101.7	99.0	103.0	103.3	99.9	101.2
May 21.....	97.9	100.9	99.5	99.8	103.0	100.7	104.8	105.2	100.6	104.2
June 18.....	97.9	101.4	101.3	99.3	102.6	101.4	104.4	104.7	99.8	104.1
July 16.....	99.1	101.3	100.8	99.3	102.9	101.8	105.5	104.4	99.8	103.1
Aug. 13.....	99.6	100.0	100.0	98.1	102.0	102.5	102.8	100.8	99.0	101.8
Sept. 10.....	100.4	100.8	101.1	99.4	100.8	103.8	102.7	104.0	103.2	104.1
Oct. 8.....	102.2	102.3	103.9	101.7	103.5	105.0	105.2	104.8	101.1	103.8
Nov. 19.....	102.0	102.3	103.6	101.9	102.9	104.3	105.0	100.2	100.9	105.2
Dec. 17.....	101.8	104.5	104.9	101.5	102.7	102.1	104.3	102.1	100.5	105.2
1936 average.....	103.4	105.3	104.7	103.2	103.9	103.4	105.7	102.6	100.9	106.4
1936 average.....										
Jan. 14.....	100.9	102.4	103.6	101.5	101.4	102.6	100.9	102.0	100.3	102.2
Feb. 11.....	102.6	105.2	104.8	102.0	103.1	101.3	103.6	101.0	100.5	105.4
Mar. 10.....	98.2	102.0	101.7	98.9	99.1	99.3	99.5	99.1	96.3	103.3
Apr. 21.....	97.8	100.6	100.1	97.3	97.7	96.6	96.9	97.2	96.6	99.7
May 19.....	97.6	99.1	98.6	99.2	98.1	96.3	96.0	98.9	96.7	98.5
June 16.....	97.0	98.3	99.3	98.7	98.6	97.6	96.4	98.2	97.3	97.0
July 14.....	99.3	100.4	101.8	101.4	101.4	101.0	100.0	100.1	99.1	97.2
Aug. 18.....	103.6	102.4	103.3	103.7	102.7	105.2	102.6	103.9	103.7	101.3
Sept. 15.....	104.4	104.6	106.6	105.4	104.6	105.8	103.5	106.1	103.9	104.3
Oct. 13.....	103.5	104.9	107.4	104.2	105.2	107.8	104.8	106.7	103.1	106.8
Nov. 17.....	102.1	104.5	105.7	103.2	102.3	107.8	103.2	105.0	101.3	105.8
Dec. 15.....	102.3	102.7	106.4	101.8	101.8	106.4	102.3	103.8	101.7	103.9
1937.....	103.0	104.5	107.7	102.5	101.7	106.3	102.4	104.4	101.6	103.1

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	South Atlantic					East South Central				West South Central
	Jacksonville	Norfolk	Richmond	Savannah	Washington, D. C.	Birmingham	Louisville	Memphis	Mobile	Dallas
1937 average.....	104.1	105.0	105.4	104.4	105.0	107.7	104.9	105.8	105.5	105.0
Jan. 12.....	102.2	104.9	106.6	102.6	103.2	106.0	103.6	106.1	103.1	104.7
Feb. 16.....	103.2	105.3	105.8	103.8	102.5	106.4	105.7	106.6	104.7	104.7
Mar. 16.....	103.6	105.9	106.1	104.6	104.8	109.1	104.8	107.3	107.1	105.8
Apr. 13.....	103.9	106.2	106.0	105.0	104.8	109.8	104.7	107.3	107.3	106.7
May 18.....	103.9	107.1	106.1	105.4	106.2	109.4	105.5	107.3	107.0	106.3
June 15.....	104.3	105.9	104.9	104.7	106.8	109.8	106.6	106.3	106.9	104.3
July 13.....	107.1	105.1	104.9	105.5	108.0	109.9	104.8	107.2	108.9	103.9
Aug. 17.....	106.5	106.2	107.3	106.5	106.9	110.1	106.5	107.8	107.6	106.8
Sept. 14.....	104.7	105.9	107.2	105.6	107.3	109.3	105.8	105.6	106.3	106.2
Oct. 12.....	104.9	103.8	104.7	104.9	105.0	107.0	105.2	105.0	105.2	105.7
Nov. 16.....	102.5	102.2	103.6	102.9	103.0	103.2	103.3	102.5	102.2	103.1
Dec. 14.....	102.5	101.6	101.7	101.0	101.3	102.1	102.5	101.1	100.2	101.5
1938 average.....	98.4	96.7	96.5	97.5	96.1	95.6	96.4	96.1	97.7	96.7
Jan. 18.....	100.2	101.4	99.6	99.7	99.0	99.9	99.8	98.8	95.6	98.3
Feb. 15.....	97.9	98.5	98.3	98.3	96.0	97.1	97.5	97.5	96.7	96.6
Mar. 15.....	97.3	97.6	97.4	98.0	95.6	95.3	96.7	96.5	98.6	97.1
Apr. 17.....	97.6	97.3	96.4	97.0	95.7	93.9	96.4	96.2	97.4	98.2
May 17.....	96.8	96.9	95.0	96.0	94.5	93.4	96.0	96.1	97.7	95.7
June 14.....	98.4	95.4	94.6	97.8	96.6	94.5	96.8	95.7	97.6	95.0
July 12.....	100.5	96.4	95.5	97.6	96.5	95.4	96.6	97.2	99.0	95.8
Aug. 16.....	99.6	95.3	95.6	97.2	95.7	96.4	94.9	95.2	98.7	96.9
Sept. 13.....	100.1	95.5	96.3	97.4	96.9	96.0	96.0	95.7	97.1	97.3
Oct. 18.....	97.6	95.9	96.2	97.9	95.9	95.8	95.5	94.4	97.6	96.8
Nov. 15.....	96.7	95.1	97.1	96.5	94.5	94.9	95.0	94.3	96.4	95.5
Dec. 13.....	97.9	95.6	96.2	97.2	96.2	94.7	96.1	95.1	96.4	97.1
1939 average.....	96.7	94.2	92.9	96.7	95.0	92.4	93.9	92.7	96.7	92.5
Jan. 17.....	96.2	95.0	93.6	95.5	95.0	92.1	94.5	93.0	95.5	92.8
Feb. 14.....	94.3	94.1	92.9	94.2	94.6	91.2	93.8	93.2	95.0	90.3
Mar. 14.....	95.1	94.2	92.7	94.7	94.5	91.4	93.3	92.2	96.1	90.8
Apr. 18.....	95.5	93.8	92.4	95.7	95.4	91.1	92.9	92.0	95.8	92.4
May 16.....	94.8	93.0	91.6	95.7	93.6	90.9	91.5	89.5	95.4	91.0
June 13.....	94.6	92.1	90.1	95.1	93.6	89.9	92.3	90.6	96.0	89.5
July 18.....	98.4	93.8	92.8	97.5	95.1	90.7	92.4	91.1	95.6	90.0
Aug. 15.....	95.8	93.6	92.2	96.7	94.1	90.7	92.1	89.7	95.5	91.7
Sept. 19.....	100.4	97.3	96.4	100.8	99.5	95.9	97.1	96.7	100.7	94.8
Oct. 17.....	99.3	95.4	93.9	99.1	96.3	96.4	96.5	95.8	100.0	95.8
Nov. 14.....	98.7	94.6	93.9	98.6	94.7	94.3	96.1	95.2	98.2	95.9
Dec. 12.....	97.4	94.0	92.5	96.9	93.8	93.5	94.0	92.8	96.2	94.4
1940 average.....	98.6	95.0	92.8	98.7	96.4	93.8	94.4	93.3	96.9	92.2
Jan. 16.....	97.0	93.3	92.4	97.3	94.5	94.1	93.9	93.9	95.9	93.6
Feb. 13.....	97.9	95.4	94.4	99.1	96.4	95.6	93.6	95.0	95.6	93.4
Mar. 12.....	95.9	93.0	91.1	97.3	96.1	92.5	93.5	92.3	96.7	90.6
Apr. 16.....	96.3	93.3	91.7	97.1	96.7	91.4	93.6	92.4	96.5	90.4
May 14.....	97.8	96.0	93.4	98.9	96.9	92.7	95.3	93.9	98.1	92.5
June 13.....	100.2	94.7	92.6	99.6	98.3	92.5	95.2	92.7	97.5	91.2
July 16.....	100.8	96.4	93.2	99.3	98.7	93.1	94.5	91.9	98.2	92.2
Aug. 13.....	100.0	96.4	91.8	98.1	96.3	93.7	93.3	93.3	98.3	92.1
Sept. 17.....	101.4	95.2	93.1	99.5	96.9	94.6	94.6	93.0	96.9	92.8
Oct. 15.....	99.6	94.6	92.5	99.3	95.5	94.6	94.9	93.3	96.5	93.1
Nov. 12.....	97.5	94.7	93.4	98.5	93.9	94.3	94.3	92.0	95.3	92.1
Dec. 17.....	99.0	97.1	94.5	100.2	96.6	96.8	95.9	95.6	97.3	92.2
1941 average.....	108.6	107.4	103.4	109.8	105.4	103.3	105.2	103.8	109.0	101.0
Jan. 14.....	98.8	95.8	93.7	100.5	97.7	96.0	95.5	94.2	97.9	92.6
Feb. 18.....	99.2	99.5	94.7	100.0	98.8	95.6	95.8	94.8	98.2	92.1
Mar. 18.....	99.0	100.6	94.9	100.7	99.3	95.3	96.2	95.7	99.8	93.5
Apr. 15.....	101.7	102.1	97.9	103.0	100.7	97.0	99.7	98.2	102.9	95.7
May 13.....	103.1	102.1	97.8	104.7	102.8	97.7	101.4	99.8	104.2	96.4
June 17.....	107.6	107.0	102.9	108.9	104.8	103.0	107.2	103.3	106.6	97.7
July 15.....	111.4	108.4	105.1	113.5	105.7	105.2	107.9	105.7	110.4	100.9
Aug. 12.....	113.6	110.8	107.5	114.8	107.4	106.8	107.8	106.4	112.3	103.8
Sept. 16.....	114.6	113.1	109.9	116.4	110.5	109.0	110.9	110.6	116.0	106.3
Oct. 14.....	117.5	115.2	112.3	118.3	111.9	109.7	111.6	111.3	118.9	110.0
Nov. 18.....	119.2	116.7	111.8	118.6	111.4	112.6	114.1	112.3	120.2	111.7
Dec. 16.....	117.3	117.6	112.6	118.1	113.4	112.0	113.7	113.1	120.7	111.0

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	West South Central			Mountain			Pacific			Seattle
	Hous- ton	Little Rock	New Or- leans	Butte	Den- ver	Salt Lake City	Los An- geles	Port- land, Oreg.	San Fran- cisco	
1923.....	124.5	126.7	116.0	125.6	115.0	121.5	132.2	121.6	118.2	123.3
1924.....	124.7	124.5	116.7	124.8	114.3	122.5	133.7	123.3	119.4	124.2
1925.....	136.9	137.1	124.0	134.6	124.0	135.9	141.4	129.4	129.9	133.1
1926.....	135.6	143.1	124.7	133.8	126.4	132.1	140.0	128.5	128.9	132.1
1927.....	129.7	135.8	122.9	130.2	121.0	130.2	136.3	126.8	126.3	128.7
1928.....	127.1	131.8	122.0	128.5	118.7	126.9	134.0	125.9	125.5	126.4
1929.....	130.1	135.5	124.3	133.2	120.6	128.9	136.2	128.1	127.8	129.6
1930.....	124.3	129.0	118.6	125.1	114.9	123.0	127.8	121.3	124.3	123.9
1931.....	98.5	99.1	96.5	103.6	94.9	99.1	102.0	96.9	102.6	100.9
1932.....	80.3	79.9	84.0	84.6	81.6	81.7	85.5	84.7	89.5	87.4
1933.....	80.5	78.6	81.3	80.5	80.8	81.1	87.6	80.5	87.7	85.0
1934.....	91.6	90.4	89.1	89.0	88.8	90.9	92.9	87.4	94.4	91.6
1935 average.....	99.6	101.0	100.6	99.5	100.4	100.4	100.3	96.7	100.8	98.9
Jan. 15.....	97.1	97.3	98.1	96.8	95.7	96.9	100.3	92.9	100.6	98.0
Feb. 12.....	101.2	102.3	100.4	100.1	99.9	101.3	101.4	94.7	100.7	101.0
Mar. 12.....	100.9	101.1	101.5	98.9	99.6	100.6	103.8	97.4	102.6	100.9
Apr. 9.....	103.6	102.0	102.8	99.8	103.7	101.8	104.0	98.6	103.5	102.4
May 21.....	99.3	100.7	99.3	102.0	102.4	102.8	104.1	99.7	103.6	100.3
June 18.....	98.5	101.1	99.5	101.3	102.8	101.1	100.4	97.3	102.8	98.3
July 16.....	97.4	101.4	99.3	99.6	98.8	98.2	98.1	94.8	97.7	95.4
Aug. 13.....	98.0	101.8	99.4	98.6	99.6	98.3	95.2	95.6	97.8	95.8
Sept. 10.....	99.3	102.0	100.7	98.9	100.4	99.4	96.5	96.0	98.7	96.8
Oct. 8.....	98.9	100.1	101.1	98.3	99.6	99.8	98.2	95.9	99.1	97.0
Nov. 19.....	100.2	100.9	102.5	100.0	100.3	101.2	102.2	98.9	101.8	100.3
Dec. 17.....	101.1	101.5	102.8	99.9	101.7	103.0	99.8	98.3	100.4	100.7
1936 average.....	99.9	102.2	100.2	101.0	101.6	100.9	99.9	99.8	100.3	100.5
Jan. 14.....	99.6	101.4	101.4	99.1	100.3	100.4	100.3	98.1	101.1	101.5
Feb. 11.....	97.1	100.5	98.7	99.1	98.5	99.3	97.2	98.5	99.9	100.6
Mar. 10.....	95.4	95.7	96.4	99.2	98.1	98.0	96.7	97.4	98.1	98.5
Apr. 21.....	95.6	99.4	96.7	98.4	98.0	97.6	95.7	97.6	97.9	97.8
May 19.....	95.0	98.6	94.8	97.9	97.9	97.7	95.9	97.6	97.6	97.3
June 16.....	97.6	100.2	97.7	103.1	103.0	101.7	98.7	100.5	100.1	99.8
July 14.....	101.0	103.3	102.6	103.5	103.2	102.2	98.5	100.4	100.1	100.0
Aug. 18.....	103.0	106.0	103.8	101.6	103.7	102.3	101.2	101.1	100.4	100.6
Sept. 15.....	103.7	105.9	104.2	101.6	104.5	103.3	104.3	102.0	102.0	102.2
Oct. 13.....	104.3	105.1	103.1	102.9	105.1	101.9	103.1	101.5	102.6	102.1
Nov. 17.....	103.6	103.0	101.2	102.8	104.0	103.6	105.2	102.7	102.2	102.6
Dec. 15.....	102.7	103.2	102.2	102.8	102.4	102.2	101.6	100.3	101.3	102.7
1937 average.....	103.9	105.8	103.4	105.1	106.3	105.9	106.0	105.6	104.4	105.5
Jan. 12.....	102.7	104.6	104.3	103.2	104.1	102.5	104.3	101.8	102.1	105.4
Feb. 16.....	102.7	105.8	104.4	105.4	106.9	105.9	108.9	104.7	104.0	106.8
Mar. 16.....	105.1	110.3	105.4	105.7	107.6	106.9	109.8	105.3	105.4	107.1
Apr. 13.....	104.9	108.9	105.3	104.5	108.6	106.7	108.6	107.1	105.2	106.7
May 18.....	103.8	106.6	103.1	107.3	108.6	108.9	108.1	108.2	105.1	107.8
June 15.....	103.3	105.7	102.3	106.8	106.7	107.2	105.0	107.5	104.3	105.1
July 13.....	104.4	105.5	101.4	105.1	106.5	105.8	104.6	106.2	102.7	104.7
Aug. 17.....	105.0	105.9	103.5	105.3	106.1	106.3	105.3	106.2	103.7	104.8
Sept. 14.....	105.4	105.2	104.8	105.0	107.2	106.5	107.2	107.1	105.4	105.4
Oct. 12.....	104.8	105.1	103.2	106.6	107.7	107.5	105.3	106.4	105.9	106.0
Nov. 16.....	103.3	103.7	101.6	103.5	103.3	105.1	103.2	104.9	106.1	104.5
Dec. 14.....	101.4	101.9	100.0	102.2	102.6	101.9	101.2	101.7	103.2	101.9
1938 average.....	98.7	96.2	97.7	98.4	97.1	97.0	97.7	99.7	98.5	97.9
Jan. 18.....	100.0	100.0	99.8	99.4	99.8	99.8	99.3	100.5	100.8	100.3
Feb. 15.....	99.6	99.0	97.8	98.1	96.8	96.8	96.1	99.9	98.3	98.7
Mar. 15.....	98.9	96.9	97.9	99.0	97.6	96.5	96.7	100.7	98.5	99.7
Apr. 12.....	98.2	98.6	98.1	97.9	98.6	96.6	98.3	101.3	98.0	100.4
May 17.....	98.1	94.8	94.8	98.9	98.6	97.0	97.2	99.4	97.1	97.7
June 14.....	97.7	94.8	95.4	100.1	98.0	98.2	97.2	99.4	98.4	96.9
July 12.....	98.2	95.6	97.7	100.4	99.3	98.7	96.7	99.5	97.5	97.3
Aug. 16.....	98.4	94.5	99.1	99.3	96.2	95.9	97.5	99.4	98.0	96.0
Sept. 13.....	98.6	95.4	98.9	98.8	95.5	96.7	97.6	98.8	99.2	96.8
Oct. 18.....	99.3	94.9	98.7	96.6	93.9	95.2	97.1	98.9	99.3	97.1
Nov. 15.....	98.9	95.1	96.9	96.0	95.0	95.8	97.5	98.7	98.4	96.8
Dec. 13.....	99.0	95.2	97.6	96.5	95.9	97.3	100.7	99.6	98.6	97.4

TABLE 5.—Indexes of average retail cost of all foods, by cities, 1923-41—Continued

Date	West South Central			Mountain			Pacific			
	Hous- ton	Little Rock	New Or- leans	Butte	Den- ver	Salt Lake City	Los An- geles	Port- land, Oreg.	San Fran- cisco	Seattle
1939 average.....	97.8	94.8	98.1	96.0	94.6	95.8	96.2	98.3	96.0	97.2
Jan. 17.....	98.4	94.3	97.1	95.1	94.2	94.6	97.4	98.2	97.0	96.9
Feb. 14.....	95.8	94.9	96.4	94.9	94.5	93.7	96.7	98.6	96.8	96.8
Mar. 14.....	95.3	94.5	97.0	95.7	94.1	93.1	96.4	97.5	95.5	96.7
Apr. 18.....	97.1	94.6	97.5	94.8	94.5	92.5	93.6	97.3	95.5	94.9
May 16.....	96.5	93.4	95.3	96.1	94.5	95.5	93.9	97.6	94.5	96.4
June 13.....	95.7	92.2	95.1	97.0	94.5	97.7	94.1	97.2	93.5	95.9
July 18.....	97.7	91.9	97.0	95.4	94.3	95.3	95.5	96.9	93.7	95.0
Aug. 15.....	97.8	94.0	97.6	94.1	92.7	94.6	94.6	96.1	93.8	94.5
Sept. 19.....	100.9	98.7	102.4	98.1	95.7	99.4	99.2	101.6	99.0	102.0
Oct. 17.....	100.5	97.2	102.1	98.2	95.9	98.9	101.0	100.5	99.1	99.9
Nov. 14.....	99.3	96.5	100.7	98.1	95.4	97.8	97.2	99.7	97.8	100.3
Dec. 12.....	98.8	95.4	98.5	94.9	95.0	96.6	94.6	97.9	96.1	96.6
1940 average.....	99.4	95.1	100.7	97.2	94.4	97.5	97.1	99.2	96.5	99.4
Jan. 16.....	98.7	94.7	99.3	95.0	94.0	94.6	94.3	97.4	95.1	98.4
Feb. 13.....	100.1	97.9	101.3	97.0	95.5	95.7	96.4	98.6	95.6	99.9
Mar. 12.....	97.7	95.3	99.8	94.6	93.9	94.9	95.6	97.5	95.0	98.7
Apr. 16.....	97.3	95.6	101.2	96.3	94.7	95.7	95.1	97.6	95.8	98.9
May 14.....	98.6	97.1	101.3	98.4	96.7	97.4	96.5	98.2	95.5	99.8
June 18.....	97.9	95.3	100.9	99.0	96.2	101.0	97.4	99.8	96.7	99.7
July 16.....	98.8	95.8	101.5	98.6	94.2	100.1	98.2	100.1	95.9	99.1
Aug. 12.....	99.4	93.4	101.5	97.8	92.6	97.7	97.5	99.8	96.2	100.4
Sept. 17.....	99.7	93.5	101.9	97.7	92.9	98.5	97.8	100.5	97.9	100.1
Oct. 15.....	101.0	92.8	100.5	96.9	93.2	97.8	97.5	99.9	98.2	99.0
Nov. 12.....	101.3	93.5	98.7	96.3	92.9	98.3	98.8	99.9	97.8	99.2
Dec. 17.....	102.1	96.0	100.5	98.2	95.9	98.6	99.9	100.7	97.9	100.2
1941 average.....	108.9	104.3	110.7	105.0	103.2	106.1	107.7	111.5	107.0	110.2
Jan. 14.....	102.6	95.6	101.9	98.7	94.8	97.5	101.8	101.7	99.6	101.0
Feb. 18.....	102.1	95.6	102.0	98.4	94.4	97.8	99.0	101.6	99.6	101.1
Mar. 18.....	102.1	95.6	102.9	98.3	95.1	98.4	100.8	102.8	100.6	102.4
Apr. 15.....	104.2	98.4	105.9	101.3	98.6	101.0	102.7	105.5	103.5	104.7
May 13.....	105.0	100.1	105.2	103.8	99.5	103.5	105.2	106.8	104.9	108.0
June 17.....	106.4	101.9	108.6	106.1	103.0	107.2	107.7	110.2	107.1	109.7
July 15.....	108.7	104.9	112.0	106.8	104.2	106.7	107.2	111.5	107.2	109.3
Aug. 12.....	109.5	108.2	114.7	107.4	106.0	106.9	109.3	114.3	108.3	112.2
Sept. 16.....	113.1	109.9	117.4	108.8	107.3	109.1	111.9	120.0	111.0	117.0
Oct. 14.....	116.6	111.3	118.8	109.6	109.9	113.9	112.4	120.3	112.6	118.1
Nov. 18.....	118.6	114.4	118.7	110.9	113.2	115.7	115.4	121.7	114.4	118.9
Dec. 16.....	117.9	115.5	119.9	110.4	111.9	115.4	118.6	121.3	115.4	120.6

Early Indexes of Food Costs

The Bureau of Labor Statistics has been collecting retail prices of foods since 1903, when the series was inaugurated and data collected for the preceding years from 1890 to 1903. This early series makes possible a continuous measure of trends in retail-food costs during the last half-century. Indexes of food costs based on 1913 as 100 are presented in table 6 for the 45-year period from 1890 to 1934, inclusive. They show that during the 1890's food prices varied moderately around levels about two-thirds of that in 1913. The effect of the first World War is strikingly apparent in the rapidly mounting food-cost index from 101.3 in 1915 to 203.4 five years later. The brief post-war depression is likewise reflected in this food-cost index, as well as the comparatively stable prices prevailing during most of the decade before the serious depression of the 1930's. This index indicates that in 1933 food costs reached the lowest point since 1912.

TABLE 6.—*Indexes of retail cost of food in the United States, 1890-1934*

[1913=100]

Date	Index	Date	Index	Date	Index
1890.....	69.6	1905.....	76.4	1920.....	203.4
1891.....	70.6	1906.....	78.7	1921.....	153.3
1892.....	69.3	1907.....	82.0	1922.....	141.6
1893.....	71.0	1908.....	84.3	1923.....	146.2
1894.....	67.8	1909.....	88.7	1924.....	145.9
1895.....	66.5	1910.....	93.0	1925.....	157.4
1896.....	64.9	1911.....	92.0	1926.....	160.6
1897.....	65.4	1912.....	97.6	1927.....	155.4
1898.....	67.1	1913.....	100.0	1928.....	154.3
1899.....	67.7	1914.....	102.4	1929.....	156.7
1900.....	68.7	1915.....	101.3	1930.....	147.1
1901.....	71.5	1916.....	113.7	1931.....	121.3
1902.....	75.4	1917.....	146.4	1932.....	102.1
1903.....	75.0	1918.....	168.3	1933.....	99.7
1904.....	76.0	1919.....	185.9	1934.....	110.8

Residential Rents

Data on monthly rental rates for family dwellings are obtained quarterly in 34 large cities from rental agencies and owners of rented properties. These data are collected on a sample of dwellings selected to provide a cross section of all rental properties in each city, with proportional representation of the various types of structures, sizes of dwelling units, rent ranges, and residential districts.

Two separate series of rent indexes are computed from these data. One series is prepared as a regular part of the Bureau's study of changes in the cost of living of wage earners and lower-salaried workers. These indexes are computed from the rental data for dwellings at the lower and intermediate rent levels only, since high-rent property is not within the budgets of moderate-income families. The other series of indexes covers all rent levels and represents the rental situation for all tenant groups in the city, the data being weighted in accordance with the relative frequency of dwellings in the various rent ranges.

Retail Coal Prices ⁵

Retail prices of coal are now collected as of the middle of each month from 51 cities. Prior to September 1940 these data were collected quarterly in March, June, September, and December. Altogether, 26 different sizes and types of coal are included. Prices of one or more kinds of bituminous coal are collected from 47 cities, and of one or more kinds of anthracite from 33 cities. Prices of both anthracite and bituminous coal are obtained in 29 cities. Average and relative prices of coal for all cities combined are shown in table 7.

⁵ See U. S. Bureau of Labor Statistics Bull. No. 495, p. 195, and other bulletins there referred to for history of the collection of coal prices by the Bureau of Labor Statistics.

TABLE 7.—Average and relative prices of coal for large cities, combined, 1929-41

Date	Average price per ton of 2,000 lbs.			Index (1935-39=100)		
	Bituminous (unweighted average, 38 cities)	Pennsylvania anthra- cite (weighted aver- age, 25 cities)		Bituminous (unweighted average, 38 cities)	Pennsylvania anthra- cite (weighted aver- age, 25 cities)	
		Stove	Chestnut		Stove	Chestnut
1929.....	\$8.85	\$14.14	\$13.70	104.6	126.2	122.5
1930.....	8.83	14.03	13.66	104.3	125.2	122.0
1931.....	8.33	13.68	13.65	98.5	121.9	122.0
1932.....	7.71	12.55	12.45	91.1	112.0	111.2
1933.....	7.65	12.12	11.93	90.4	108.2	106.6
1934.....	8.26	12.18	11.92	97.6	108.7	106.6
1935.....	8.29	11.38	11.14	97.9	101.6	99.6
1936.....	8.42	11.74	11.61	99.5	104.8	103.7
1937.....	8.58	11.05	11.19	101.0	98.5	99.9
1938.....	8.61	10.96	11.11	101.3	97.8	99.2
1939.....	8.52	10.79	10.84	100.2	96.2	96.8
March.....	8.68	11.28	11.35	102.2	100.6	101.3
June.....	8.28	10.47	10.55	97.4	93.4	94.2
September.....	8.45	10.56	10.64	99.4	94.2	94.9
December.....	8.68	10.84	10.83	102.0	96.7	96.7
1940.....	8.60	11.33	11.35	100.5	101.1	101.3
March.....	8.65	11.31	11.37	101.7	100.9	101.5
June.....	8.36	11.02	11.04	97.7	98.3	98.5
September.....	8.54	11.40	11.41	99.4	101.7	101.8
December.....	8.86	11.59	11.59	103.1	103.4	103.4
1941.....	8.88	11.63	11.66	103.2	103.8	104.1
March.....	8.89	11.51	11.57	103.4	102.7	103.3
June.....	9.34	12.36	12.41	108.4	110.2	110.7
September.....	9.50	12.75	12.43	110.3	110.2	112.9

Electricity—Residential Costs ⁶

Residential rates for electricity are obtained quarterly in each of 51 cities. Price data are reported in terms of net monthly bills and prices per kilowatt-hour for representative services approximating consumption requirements in a five-room house. The services selected as representative are:

1. Lighting and small energy-consuming appliances, estimated to consume 25 kilowatt-hours monthly.
2. Greater use for lighting and small appliances, and a refrigerator, estimated to require a monthly consumption of 100 kilowatt-hours.
3. Still greater use for lighting and small appliances, and both an electric refrigerator and range, estimated to require a monthly consumption of 250 kilowatt-hours.

⁶ See U. S. Bureau of Labor Statistics Bull. No. 664 (p. 77), for history of the collection of electricity data by the Bureau of Labor Statistics.

Table 8 shows indexes of retail costs of electricity for two representative services:

TABLE 8.—Indexes of retail costs of electricity for 51 cities combined, for specified periods, 1923-41

[1935-39=100]

Date	Lighting and small appliances, 25 kwh.	Lighting, appliances and refrigerator, 100 kwh.	Date	Lighting and small appliances, 25 kwh.	Lighting, appliances and refrigerator, 100 kwh.
1923: December.....	130.7	147.9	1939:		
1924: December.....	129.9	145.8	March.....	96.5	96.9
1925: December.....	125.8	141.9	June.....	96.2	96.6
1926: December.....	124.8	139.2	September.....	95.8	96.4
1927: December.....	121.6	133.7	December.....	95.3	95.9
1928: December.....	118.0	127.4	1940:		
1929: December.....	116.0	123.3	March.....	95.2	96.0
1930: December.....	114.1	120.8	June.....	94.7	95.4
1931: December.....	114.2	112.6	September.....	94.4	95.0
1932: December.....	116.0	114.2	December.....	94.2	94.7
1933: December.....	109.8	109.8	1941:		
1934: December.....	107.8	108.8	March.....	94.2	94.6
1935: December.....	104.4	102.6	June.....	94.3	94.6
1936: December.....	101.2	100.7	September.....	93.6	93.9
1937: December.....	98.3	98.4	December.....		
1938: December.....	96.8	97.3			

Gas—Residential Costs ⁷

Prices of gas for residential use are collected quarterly in each of 50 cities. Because of wide variations among different kinds of gas in heating value per unit of volume, price data are now presented in terms of heat units rather than in cubic feet. The British thermal unit (the amount of heat required to raise the temperature of 1 pound of pure water 1 degree Fahrenheit) is the basic unit of measurement for heating value, and the therm, representing 100,000 British thermal units (B. t. u.), is the unit used for gas price quotations. Prices are obtained for four selected services estimated to require the consumption of gas equivalent to specified numbers of therms. Data are published for the two most widely used services, that for cooking only, estimated to require a monthly consumption equal to 10.6 therms, and that for cooking and the use of an automatic water heater, requiring 30.6 therms (table 9).

⁷ See U. S. Bureau of Labor Statistics Bull. No. 628 for history of the collection of retail prices of gas by the Bureau of Labor Statistics.

TABLE 9.—Indexes of retail costs of gas for 50 cities combined, for specified periods, 1923-41

[1935-39=100]

Date	10.6 therms, range				30.6 therms, range and automatic water heater			
	All gas, 50 cities	Manufactured 1923, 40 cities; 1940, 24 cities	Natural 1923, 7 cities; 1940, 19 cities	Mixed 1923, 3 cities; 1940, 7 cities	All gas, 50 cities	Manufactured 1923, 40 cities; 1940, 24 cities	Natural 1923, 7 cities; 1940, 19 cities	Mixed 1923, 3 cities; 1940, 7 cities
1923: December.....	101.7	99.3	87.3	97.5	116.3	111.8	96.4	106.3
1924: December.....	102.2	99.8	86.7	97.0	116.9	112.3	99.7	105.7
1925: December.....	102.4	99.5	94.1	97.0	117.1	111.9	105.7	105.7
1926: December.....	102.1	99.4	94.1	99.0	116.4	111.6	105.7	107.9
1927: December.....	102.3	99.4	96.0	99.0	116.1	111.1	105.7	107.9
1928: December.....	101.7	98.9	104.9	99.0	113.8	110.4	106.1	107.9
1929: December.....	102.0	99.8	104.8	96.3	111.6	108.9	105.9	104.8
1930: December.....	101.5	100.1	104.8	97.4	109.9	108.6	105.9	105.6
1931: December.....	100.5	99.8	104.8	97.4	106.5	105.8	105.9	105.6
1932: December.....	99.5	99.0	104.8	96.1	104.9	104.2	105.9	104.2
1933: December.....	99.4	99.0	104.4	95.8	103.3	103.5	105.5	98.5
1934: December.....	99.6	99.8	101.1	96.4	103.5	104.1	102.2	99.2
1935: December.....	99.3	99.7	100.3	96.3	101.5	101.6	101.7	98.8
1936: December.....	98.8	99.6	99.2	96.3	100.0	101.0	99.2	98.6
1937: December.....	98.9	99.8	99.1	96.4	99.5	100.4	99.0	98.7
1938: December.....	101.0	100.4	98.7	105.5	100.6	101.0	98.3	102.3
1939:								
March.....	101.6	100.3	102.4	105.4	100.9	100.8	101.6	102.2
June.....	101.6	100.3	102.4	105.6	97.9	96.1	101.6	102.5
September.....	101.5	100.3	101.9	105.5	97.5	96.1	100.7	100.8
December.....	102.0	101.2	101.9	105.3	100.4	100.7	100.7	100.5
1940:								
March.....	102.1	101.4	101.9	105.3	100.2	100.4	101.0	100.5
June.....	100.4	101.4	101.6	96.7	96.3	95.3	100.9	97.2
September.....	100.4	101.4	102.0	96.5	96.3	95.3	101.3	96.8
December.....	100.2	101.3	100.9	96.3	98.8	99.7	100.1	96.5
1941:								
March.....	99.9	101.3	99.7	96.2	98.3	99.7	97.0	96.4
June.....	100.0	101.3	99.7	96.4	95.3	94.9	97.0	96.6
September.....	99.7	100.8	99.7	96.4	95.0	94.5	97.0	96.6
December.....	99.4	100.5	99.7	96.2	97.8	98.7	97.8	96.4



Effects of Rising Costs on Quality of Wearing Apparel ¹

As a result of war conditions and defense needs the prices of some finished textiles and clothing advanced materially after August 1939. For example, reports to the Bureau of Labor Statistics indicate wholesale prices of linen handkerchiefs and linen table damask in January 1941 were 64 and 67 percent, respectively, above their pre-war levels, reflecting the marked shortage of linen imports. All-wool blankets advanced 25 percent during this period, while the wholesale prices of men's overalls and work shirts rose 12 and 9 percent, respectively.

However, these outright advances in price tell only part of the story. In many cases the adjustment to rising costs took the form of altering quality while leaving price unchanged. In fact, it is this

¹ Abstract of an article by Laura Mae Brown, Bureau of Labor Statistics, in the *Monthly Labor Review* for February 1941. The article is based on reports from the Bureau's retail-price field supervisors and on articles in the clothing-trade press.

latter mode of adjustment which was the more common, because of certain peculiarities in the structure of the apparel market.

Over a period of years it has become the custom to sell many kinds of finished consumers' goods, particularly clothing and textile products, at certain generally accepted levels called "price lines." The intervals at which these price brackets are set vary for different classes of commodities. For example, women's street dresses are customarily sold at retail at \$5.95, \$6.95, \$7.95, \$10.95, \$14.95, and \$16.95, and not at intermediate prices. Women's slips ordinarily sell at \$1.00, \$1.19, \$1.98, \$2.98, and \$3.98. Men's popular-priced worsted suits commonly retail at \$19.75, \$25.00, and \$30.00; men's street shoes at \$2.98, \$4.00, and \$5.00; and men's shirts at \$1.00, \$1.39, \$1.65, and \$2.00.

This concentration of prices in conventional brackets at the retail level necessarily influences pricing practices at the wholesaling and manufacturing levels. In fact, there is some indication that price lines at the wholesale level are more rigid than at the retail level. In the women's dress field a manufacturing company comes to be known for example, as an "\$8.75 house" or a "\$14.75 house," and seldom changes its wholesale price.

Modifications in Quality to Maintain Price

There are many ways in which the quality of the garment may be modified in order to maintain conventional price lines. Of these, one of the most obvious is to change the character of the fabric by altering either the fiber content or the weave. Thus, the advance in the price of wool has led to the increasing use of rayon and wool mixtures in the manufacture of wearing apparel, blankets, and floor coverings. In the fall of 1939, when silk prices were advancing rapidly, rayon and silk mixtures were substituted extensively on women's medium-quality slips. In fact, for slips in the lowest price lines, silk was entirely displaced by rayon. Similarly, cotton may be used in combination with wool as the price of the latter advances.

Increased fabric cost may be avoided in other ways which do not involve this kind of outright substitution. Thus, all-wool construction may be maintained by changing the grade of the yarn used without any admixture of cotton or rayon. For example, when men's worsted suits were first introduced on the market in the lower price lines, a "56" grade wool was used in the production of the fabric. Gradually, as raw wool prices dropped, better qualities were substituted until, for the past few years, a "64" grade had been used generally. Following the recent rise in raw-wool prices, many manufacturers are using a grade intermediate between the "56" and the "64."

The thread count of a fabric may be reduced without any changes in the grade of the yarn or fiber. This has been done, for example, in the manufacture of women's inexpensive wash frocks. For approximately 10 years, with the exception of a short period during 1937, manufacturers used 80 x 80 percale in these frocks. The prices of print cloths have advanced materially during the past few months and manufacturers are consequently turning to 68 x 72 percale, a lower grade the wearing qualities of which are appreciably poorer. Cost increases may also be avoided by changing the weight of a fabric without introducing a lower grade of fiber, or by reducing the

thread count. Thirteen-ounce, and in some cases even 12½-ounce, fabrics are being used to maintain conventional price brackets on suits which formerly were made mostly of 14-ounce fabrics.

In some cases raw-material prices advanced so rapidly that manufacturers were forced to substitute an entirely different kind of fabric for the one previously used in the production of certain kinds of apparel. Thus, gabardine, a woven cloth, is being used to an increased extent for the uppers of women's shoes in order to maintain fixed-price brackets in spite of rising leather markets.

Outright substitution of a different kind of fabric has also been necessary in some cases because of the diversion of loom capacity to defense needs. For example, rayon fabrics are being employed to a greater extent in women's dresses for the summer of 1941 than heretofore because many cotton mills have been booked to capacity with defense orders.

In many cases, of course, it is impossible wholly to avoid an increase in fabric costs by any or all of the methods enumerated. Under such circumstances it may still be possible to maintain customary price lines by reducing labor costs. For example, as it becomes increasingly difficult to produce a man's worsted suit to retail at \$25.00, some manufacturers may eliminate the handwork such as that on the collar and buttonholes, so that the suit will be entirely machine-made.

Style trends, especially in the lower price lines, are being influenced by changes in raw-material costs for the spring and fall seasons of 1941. Thus, softer woolen fabrics are being used increasingly in men's suits instead of the hard worsted cloths which have increased in price much more rapidly.

Factors Involved in Adjustment to Rising Costs

The manner in which adjustments to rising material and labor costs are made is a matter of serious concern to manufacturers, retailers, and consumers alike. From the point of view of the manufacturer of both semifinished and finished goods, it will be necessary to decide at each stage whether to adjust the quality of his merchandise to keep it at the price level to which his regular customers have become accustomed, or whether to increase prices and hope that his sales will not suffer thereby. The problem will be particularly acute in the case of manufacturers who have been producing for consumers in the lowest income brackets, whose budgets are least elastic and whose resistance to outright increases in price is, therefore, likely to be greatest.

From the point of view of the retailer, the problems will be largely similar. Where manufacturers have raised prices at the wholesale level, retailers will be confronted with a choice between maintaining price lines by accepting reduced mark-ups or of introducing new price lines in the hope that they will find public acceptance. Both manufacturers and retailers will have to weigh short-term against long-term expediency; hidden quality changes may maintain sales for a while but lose customer goodwill in the end.

From the viewpoint of the consumer, too, no simple appraisal of these issues is possible. Within limits, minor quality changes may

not impair the usefulness of a garment. The narrower hat bands introduced by one manufacturer in 1939 as a means of cutting costs can scarcely be interpreted as having affected serviceability. In some instances changes introduced as an economy measure may actually improve the usefulness of the product. Thus rayon toes, heels, and welts were introduced in lower-quality silk hose in the fall of 1939 in order to maintain price lines in the face of a "runaway" silk market. Experience proved the substitution to be so satisfactory that these changes have been retained even though silk prices fell very sharply in the first half of 1940.

Experiences of this kind, however, are probably exceptional. In most cases fiber substitution, changes in fabric construction, and cutting corners in workmanship cannot be achieved without a definite impairment of quality. Whether such impairment is preferable to an outright increase in price must depend upon the circumstances. For the consumer in the lowest income brackets, it may be essential that some product, even though of considerably poorer quality, remain available at a price he can afford to pay. For most consumers, however, an open advance in price may be preferable to a hidden deterioration of quality, especially since the latter is often exceedingly difficult to detect.



Government Price Control in the First World War ¹

When the United States declared war against Germany in April 1917 prices of both industrial and consumer goods had already advanced, and wholesale prices averaged about 50 percent above the 1914 pre-war level.

Chief among the influences which contributed to these price increases was the extraordinary demand for both raw materials and finished goods from European countries which had already been at war for more than 2 years. Then, too, many imported materials were becoming increasingly difficult to obtain because of shipping difficulties and the discontinuance of trade with some of the belligerent nations. These circumstances, together with the further demands made upon the economy when the United States began active preparations for increased defense, in 1916, further stimulated the upward price trend.

As competition increased in the bidding for supplies by the United States Government and by the Allies, confusion and conflict arose. Industrial output could not keep up with the demand. Uncontrolled profits of unscrupulous traders presented an additional problem.

By the summer of 1917, it had become apparent that the United States Government must institute some type of price regulation to protect the interests of the defense program and of the American public. As the year proceeded, a group of agencies was created for this purpose, chief among them the War Industries Board and the Fuel and Food Administrations.

¹ Abstract of an article in *Monthly Labor Review*, February 1941, by Stella Stewart, Bureau of Labor Statistics. The author was a member of the Price Section of the War Industries Board, in charge of maintaining files of prices of controlled commodities, and collaborated with Paul W. Garrett and Isador Lubin in the preparation of War Industries Board Price Bulletin No. 3: Government Control Over Prices.

The War Industries Board was organized to insure adequate production and to regulate prices of industrial materials. Although the prices which were fixed by this agency for Government purchases were extended to civilian buying, they had less effect upon the consumer economy than other controls which this Board exercised. The priority which was given to Government orders for supplies of raw materials and fuel and for transportation led to shortages in civilian goods and eventually to price levels which bore heavily upon the consumer.

Price controls had two primary objectives—the stabilization of prices and the increase of production. It is probable that production speed-up played as important a part in the program of the War Industries Board and, later, of the Price Fixing Committee, as did the effort to buy at a reasonable price. It must be remembered that the purpose of price fixing, as far as this Board was concerned, was directed entirely toward reaching military objectives, and the fixed price, though considered “fair and reasonable” was always high enough to maintain a continuous flow of goods. Little thought was given in the early stages of the price-control program, to the probable effect upon the civilian population during either the war period or the post-war period. In order to protect the consumer against further price advances the United States Food Administration and the Fuel Administration were created in August 1917, after the United States had entered the war.

In contrast to the earlier agencies, the work of the Food Administration had two objectives: (1) The stabilization of prices and the conservation of food for the consuming public, and (2) a concentrated effort to increase the flow of goods to the European Allies. Although the wording of the Food Control Act leads to the conclusion that in forming this legislation the interests of the producer were considered at least as seriously as those of the consumer, in the administration of the law there was a somewhat different emphasis.

The work of the Fuel Administration was concerned with both industrial and domestic consumers, although the needs of industrial consumers were given precedence because of the wide use of coal for production and transportation of war supplies and material.

Each of these three wartime price-control agencies attempted to use production costs as a point of departure in price fixing, with varying degrees of success. Cost records were much less reliable then than now, and it can be readily understood that they were practically nonexistent for the small retailer of food and coal.

There were many kinds of price control—by means of minimum prices, maximum prices, base prices, and maximum profit margins. For wheat a minimum price was fixed by statute. This guaranteed the producer a fair price and so encouraged production. Prices of industrial products were usually fixed at a maximum high enough to insure an adequate output, but there was a ceiling above which they could not go. In some highly diversified industries, such as iron and steel, “base” prices were fixed and adjustments were made for varying products and different markets. For both food and fuel, profits were regulated and wholesale and retail prices were fixed at stated margins above the cost level.

It must be remembered that the prices fixed by the War Industries Board and later by the Price Fixing Committee were always determined through agreements with the trade. Only the President could enforce such prices, through his power to commandeer or requisition industry.

A thorough study of the methods used by each of these three agencies, the type of organization, their personnel, and the effectiveness of the various controls as they entered their final phases, is well worth consideration.

The present article presents a rather broad picture of the subject covered, of the principal agencies concerned, and of the major policies adopted. It does not attempt to evaluate the results of the various policies, and because of this necessary brevity it may give the impression that the price control policies of the United States in the first World War moved in a more orderly fashion than was, in fact, the case. Actually there was much experimenting and much uncertainty and even fumbling, at times, as both policies and administrative machinery were gradually evolved.

By the end of 1916 a broad increase in commodity prices was well under way. The general wholesale price level had advanced about 45 percent from the outbreak of the war; the prices of commodities directly affected, such as chemicals, coal, and steel, had risen much more sharply. By the time of our entry into the conflict, therefore, businessmen who normally would have resented governmental interference were inviting some type of price regulation. An increasing familiarity with the effects of these controls as developed in France, and England contributed to this attitude. Added weight to this demand for protection from runaway prices came from the dissatisfaction of the general public, caused by the mounting living costs.



Wholesale Prices in the United States

Wholesale prices in representative markets of the United States are collected either daily, weekly, or monthly by the United States Bureau of Labor Statistics for nearly 5,000 individual items. In some cases, prices for a particular grade or quality of an article of great importance are obtained in several different markets in order to show the influence of local conditions. In other instances, quotations for several different grades of important commodities are obtained in the same market. In either case, each quotation constitutes an individual price series. Of the total number of individual price series included in the Bureau's compilation, 889 are used in constructing the series of weighted index numbers.

At present (1941) approximately 30 percent of the price quotations are obtained from standard and recognized trade journals. This is the method followed for the most part in the case of articles classed as farm products, foods, metals, and chemicals and drugs. For the remainder of the items, prices are obtained directly from manufacturers, producers, sales agents, officials of boards of trade, other Federal agencies, and confidential sources. In most instances weekly prices are secured. The monthly average price for most articles represents

the simple average of 1-day-a-week quotations with the majority of the prices relating to Tuesday. For a limited number of articles, averages for the month represent an average of daily quotations or an average for all sales made during the month.

Whenever possible the quotations for the various commodities are secured in their primary markets. For example, the prices quoted for livestock and most animal products as well as for most of the grains are for Chicago; flour prices are mainly for Kansas City, Minneapolis, and St. Louis; iron and steel for Pittsburgh, etc. For those commodities whose prices are quite stable or are not subject to daily and weekly changes, only once-a-month quotations are taken.

Method of Computing Index Numbers

The average price of each article in the base year is multiplied by the estimated quantity of that article marketed for the two preceding census periods. The several products thus obtained are then added together, giving the approximate value in exchange for the base year of all articles in the group or in the total list of commodities. Similarly, aggregates are likewise made for each period by multiplying the average price by the quantity marketed and adding the results. The index number of each period is then calculated by comparing the aggregate for such period with the aggregate for the base period, which is taken as 100 percent.

Until the major depression in the early thirties, the weighting factors were changed when the results of the latest census of manufactures were available. At present (1941) the figures used as weighting factors represent a simple average of the quantities reported as marketed during the two census periods 1929 and 1931, to which have been added the average of the imports for consumption for corresponding dates.

In January 1937 the Bureau adopted a modified method of index number calculation which is explained in Serial No. R. 666—Revised Method of Calculation of the Wholesale Price Index of the United States Bureau of Labor Statistics. The modified method is the customary weighted aggregate method, with fixed base.¹

The weekly index number of wholesale commodity prices was begun by the Bureau in January 1932. In the construction of these indexes the same list of commodities is used as in the calculation of the monthly and yearly indexes. The same weighting factors are employed and the indexes are constructed by the use of the same method.

Trend of Wholesale Prices, 1801 to 1941

Wholesale price trends in the United States for the past 140 years are shown by the figures in table 1. The index numbers for the years 1801 to 1840 are arithmetic means of unweighted relative prices of commodities as published in Bulletin No. 367 (pp. 235–238). The index numbers for 1841 to 1889 also are arithmetic averages of unweighted relative prices and have been taken from the Report of the Committee on Finance of the United States Senate on Wholesale Prices, Wages, and Transportation, March 3, 1893 (52d Cong., 2d sess., Rept. No.

¹ The formula now used is given in footnote 4, p. 667, of the pamphlet (Serial No. R. 666).

1394, pt. 1, p. 9). As originally published, these figures were computed with 1860 as the base year. They are here converted to the 1926 base. The prices used are in currency and the number of commodities varies from approximately 150 in the earlier years to 250 in the later years of the period.

The index numbers from 1890 to 1941 are the Bureau's regular weighted series. In using the data in this table it should be kept in mind that the figures in the three series here joined are not strictly comparable, since they are based on different lists of commodities in different markets and are unweighted for the years prior to 1890. They should, however, reflect with a fair degree of accuracy wholesale price changes in general over the period covered.

TABLE 1.—Index numbers of wholesale prices, 1801 to 1941, by years

[1926=100]

Year	Index number	Year	Index number	Year	Index number	Year	Index number	Year	Index number
1801	111.8	1830	65.6	1858	62.0	1886	56.0	1914	68.1
1802	91.8	1831	70.4	1859	61.0	1887	56.4	1915	69.5
1803	93.9	1832	71.1	1860	60.9	1888	57.4	1916	85.5
1804	101.5	1833	70.4	1861	61.3	1889	57.4	1917	117.5
1805	104.2	1834	65.6	1862	71.7	1890	56.2	1918	131.3
1806	102.2	1835	74.6	1863	90.5	1891	55.8	1919	138.6
1807	96.0	1836	83.5	1864	116.0	1892	52.2	1920	154.4
1808	93.9	1837	82.8	1865	132.0	1893	53.4	1921	97.6
1809	98.7	1838	79.4	1866	116.3	1894	47.9	1922	96.7
1810	107.7	1839	83.5	1867	104.9	1895	48.8	1923	100.6
1811	104.9	1840	71.1	1868	97.7	1896	46.5	1924	98.1
1812	106.3	1841	70.5	1869	93.5	1897	46.6	1925	103.5
1813	123.6	1842	65.7	1870	86.7	1898	48.5	1926	100.0
1814	154.6	1843	61.8	1871	82.8	1899	52.2	1927	95.4
1815	121.5	1844	62.1	1872	84.5	1900	56.1	1928	96.7
1816	103.5	1845	62.6	1873	83.7	1901	55.3	1929	95.3
1817	104.2	1846	64.8	1874	81.0	1902	58.9	1930	86.4
1818	102.2	1847	64.9	1875	77.7	1903	59.6	1931	73.0
1819	89.7	1848	61.8	1876	72.0	1904	59.7	1932	64.8
1820	76.6	1849	60.1	1877	67.5	1905	60.1	1933	65.9
1821	73.2	1850	62.3	1878	61.7	1906	61.8	1934	74.9
1822	75.2	1851	64.5	1879	58.8	1907	65.2	1935	80.0
1823	71.8	1852	62.5	1880	65.1	1908	62.9	1936	80.8
1824	71.1	1853	66.4	1881	64.4	1909	67.6	1937	86.3
1825	71.8	1854	68.8	1882	66.1	1910	70.4	1938	78.6
1826	71.1	1855	68.9	1883	64.6	1911	64.9	1939	77.1
1827	71.8	1856	68.9	1884	60.5	1912	69.1	1940	78.6
1828	68.3	1857	68.5	1885	56.6	1913	69.8	1941	87.3
1829	67.6								

Index Numbers of Commodity Groups, 1890 to 1941

The index numbers of wholesale prices computed by the Bureau for the 10 major groups of commodities have been extended back to 1890, the earliest year for which wholesale prices were collected by the Bureau. While results prior to 1913 are necessarily based on a smaller number of commodities than are those for the years since 1913, they may be considered comparable for all practical purposes. Table 2 shows index numbers of wholesale prices by years from 1890 to 1941, and by months for 1941, by groups of commodities.

TABLE 2.—Index numbers of wholesale prices, 1890 to 1941

[1926=100]

Year	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs ¹	House-furnishing goods	Miscellaneous	All commodities
1890	50.4	55.5	47.5	57.8	38.1	105.3	46.5	73.2	49.9	97.9	56.2
1891	54.2	54.8	47.9	54.6	37.0	92.2	44.2	74.0	50.4	94.3	55.8
1892	49.5	51.0	47.2	55.2	34.8	84.0	41.7	74.6	48.1	86.6	52.2
1893	51.3	54.7	45.1	54.1	35.3	76.8	41.6	72.7	48.1	89.0	53.4
1894	44.6	48.2	43.0	46.1	34.3	65.7	39.8	65.5	45.3	86.4	47.9
1895	43.9	47.3	49.4	44.3	40.3	70.4	38.8	64.7	43.5	88.9	48.8
1896	39.6	44.1	45.2	43.1	39.5	71.2	38.9	65.0	43.4	90.2	46.5
1897	42.5	45.5	45.9	42.9	33.9	65.0	37.4	70.9	42.5	92.5	46.6
1898	44.9	47.8	48.3	44.9	34.5	65.3	39.6	77.4	44.0	93.4	48.5
1899	45.8	47.7	49.4	47.7	41.2	100.0	43.6	81.1	45.0	97.4	52.2
1900	50.5	50.8	49.4	53.3	46.3	98.0	46.2	82.1	48.9	102.0	56.1
1901	52.8	50.5	48.9	48.1	44.6	93.1	44.3	84.2	48.9	93.4	55.3
1902	58.4	53.3	50.8	49.4	51.8	91.0	45.3	86.5	49.2	88.1	58.9
1903	55.6	52.0	49.9	52.8	60.3	90.2	46.7	84.1	50.9	98.9	59.6
1904	58.5	54.0	49.7	52.9	53.3	79.9	45.0	84.1	50.3	109.5	59.7
1905	56.4	55.1	53.9	54.1	49.6	89.1	48.1	82.3	49.7	117.4	60.1
1906	57.3	53.4	57.7	58.7	52.0	102.4	54.0	76.8	51.3	115.3	61.8
1907	62.2	57.0	58.0	63.5	54.4	109.8	56.8	78.5	55.0	108.2	65.2
1908	62.2	58.7	55.6	54.8	53.7	86.3	52.0	79.6	51.6	97.8	62.9
1909	69.6	62.6	61.5	56.5	51.6	84.5	53.7	79.9	51.7	129.6	67.6
1910	74.3	64.9	60.2	58.4	47.6	85.2	55.3	82.0	54.0	152.7	70.4
1911	66.8	62.0	58.8	55.5	46.7	80.8	55.3	81.6	52.7	108.6	64.9
1912	72.6	66.8	64.5	55.7	51.4	89.5	55.9	80.7	53.0	106.4	69.1
1913	71.5	64.2	68.1	57.3	61.3	90.8	56.7	80.2	56.3	93.1	69.8
1914	71.2	64.7	70.9	54.6	56.6	80.2	52.7	81.4	56.8	89.9	68.1
1915	71.5	65.4	75.5	54.1	51.8	86.3	53.5	112.0	56.0	86.9	69.5
1916	84.4	75.7	93.4	70.4	74.3	116.5	67.6	160.7	61.4	100.6	85.5
1917	129.0	104.5	123.8	98.7	105.4	150.6	88.2	165.0	74.2	122.1	117.5
1918	148.0	119.1	125.7	137.2	109.2	136.5	98.6	182.3	93.3	134.4	131.3
1919	157.6	129.5	174.1	135.3	104.3	130.9	115.6	157.0	105.9	139.1	138.6
1920	150.7	137.4	171.3	164.8	163.7	149.4	150.1	164.7	141.8	167.5	154.4
1921	88.4	90.6	109.2	94.5	96.8	117.5	97.4	115.0	113.0	109.2	97.6
1922	93.8	87.6	104.6	100.2	107.3	102.9	97.3	100.3	103.5	92.8	96.7
1923	98.6	92.7	104.2	111.3	97.3	109.3	108.7	101.1	108.9	99.7	100.6
1924	100.0	91.0	101.5	106.7	92.0	106.3	102.3	98.9	104.9	93.6	98.1
1925	109.8	100.2	105.3	108.3	96.5	103.2	101.7	101.8	103.1	109.0	103.5
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	99.4	96.7	107.7	95.6	88.3	96.3	94.7	96.1	97.5	91.0	95.4
1928	105.9	101.0	121.4	95.5	84.3	97.0	94.1	95.0	95.1	85.4	96.7
1929	104.9	99.9	109.1	90.4	83.0	100.5	95.4	94.0	94.3	82.6	95.3
1930	88.3	90.5	100.0	80.3	78.5	92.1	89.9	88.7	92.7	77.7	86.4
1931	64.8	74.6	86.1	66.3	67.5	84.5	79.2	79.3	84.9	69.8	73.0
1932	48.2	61.0	72.9	54.9	70.3	80.2	71.4	73.9	75.1	64.4	64.8
1933	51.4	60.5	80.9	64.8	66.3	79.8	77.0	72.1	75.8	62.5	65.9
1934	65.3	70.5	86.6	72.9	73.3	86.9	86.2	75.3	81.5	69.7	74.9
1935	78.8	83.7	89.6	70.9	73.5	86.4	85.3	79.0	80.6	68.3	80.0
1936	80.9	82.1	95.4	71.5	76.2	87.0	86.7	78.7	81.7	70.5	80.8
1937	86.4	85.5	104.6	76.3	77.6	95.7	95.2	82.6	89.7	77.8	86.3
1938	68.5	73.6	92.8	66.7	76.5	95.7	90.3	77.0	86.8	73.3	78.6
1939	65.3	70.4	95.6	69.7	73.1	94.4	90.5	76.0	86.3	74.8	77.1
1940	67.7	71.3	100.8	73.8	71.7	95.8	94.8	77.0	88.5	77.3	78.6
1941	82.4	82.7	108.3	84.8	76.2	99.4	103.2	84.6	94.3	82.0	87.3
Jan.	71.6	73.7	102.4	75.2	72.1	97.7	99.6	78.6	89.0	77.1	80.8
Feb.	70.3	73.5	101.6	76.4	72.1	97.6	99.3	78.5	89.1	76.9	80.6
Mar.	71.6	75.2	102.6	78.4	72.0	97.7	99.5	79.8	89.5	77.6	81.5
Apr.	74.4	77.9	103.9	81.0	72.9	97.9	100.1	81.8	90.4	78.6	83.2
May	76.4	79.5	106.4	83.0	75.6	98.1	100.4	83.6	91.4	79.6	84.9
June	82.1	83.1	107.8	84.5	77.9	98.3	101.0	83.8	93.1	80.6	87.1
July	85.8	84.7	109.4	86.2	78.5	98.5	103.1	85.2	94.4	82.0	88.8
Aug.	87.4	87.2	110.2	88.3	79.0	98.6	105.5	86.0	95.4	83.7	90.3
Sept.	91.0	89.5	111.3	89.7	79.2	98.6	106.4	87.4	97.2	85.1	91.8
Oct.	90.0	88.9	112.6	90.9	79.6	103.1	107.3	89.7	99.5	86.4	92.4
Nov.	90.6	89.3	114.1	91.1	78.8	103.3	107.5	89.8	106.6	87.3	92.5
Dec.	94.7	90.5	114.8	91.8	78.4	103.3	107.8	91.3	101.1	87.6	93.6

¹ In January 1940 the group of "Chemicals and allied products" was substituted for the group of "Chemicals and drugs." The revision was made by years from 1926.

Index Numbers by Subgroups of Commodities, 1913 to 1941

Since 1913 the 10 major commodity groups have been broken down into subgroups comprising a smaller number of closely related items. Table 3 shows index numbers by groups and subgroups by years from 1913 to 1940, and by months from January 1935 to June 1941.

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941

[1926=100]

Year and month	Farm products				Foods					
	Grains	Live-stock and poultry	Other farm products	All farm products	Dairy products	Cereal products	Fruits and vegetables	Meats	Other foods	All foods
1913.....	71.1	73.2	70.8	71.5	65.9	-----	-----	59.8	65.9	64.2
1914.....	77.1	74.6	66.7	71.2	62.9	-----	-----	62.6	66.0	64.7
1915.....	93.8	88.8	63.3	71.5	62.4	-----	-----	57.6	71.0	65.4
1916.....	99.6	82.8	78.4	84.4	69.7	-----	-----	66.4	83.3	75.7
1917.....	170.4	119.4	116.2	129.0	91.5	-----	-----	92.9	116.1	104.5
1918.....	168.6	141.0	142.1	148.0	110.3	-----	-----	115.2	123.8	119.1
1919.....	177.4	148.7	153.0	157.6	125.1	-----	-----	117.6	138.0	129.5
1920.....	176.4	126.1	155.3	150.7	125.2	-----	-----	108.0	157.9	137.4
1921.....	89.1	78.2	93.8	88.4	97.5	-----	-----	77.4	94.3	90.6
1922.....	85.0	83.2	103.4	93.8	91.4	-----	-----	76.6	93.6	87.6
1923.....	88.0	77.7	116.7	98.6	103.4	-----	-----	76.2	99.6	92.7
1924.....	100.6	79.3	114.2	100.0	94.5	-----	-----	75.7	100.0	91.0
1925.....	118.3	98.9	114.5	109.8	101.1	-----	-----	93.3	104.5	100.2
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	100.9	98.9	99.2	99.4	103.9	94.4	96.7	92.7	98.0	96.7
1928.....	107.3	105.4	105.8	105.9	105.5	93.6	96.5	107.0	97.6	101.0
1929.....	97.4	106.1	106.6	104.9	105.6	88.0	97.8	109.1	93.9	99.9
1930.....	78.3	89.2	91.1	88.3	95.5	81.5	96.6	98.4	80.9	90.5
1931.....	53.0	63.0	69.2	64.8	81.8	73.1	72.4	75.4	69.8	74.6
1932.....	39.4	48.2	51.4	48.2	61.3	66.4	58.0	58.2	60.7	61.0
1933.....	33.1	43.4	55.8	51.4	60.7	75.0	61.7	50.0	61.1	60.5
1934.....	74.5	85.1	70.6	65.3	72.7	88.7	67.5	62.9	66.6	70.5
1935.....	82.5	85.1	73.4	78.8	79.8	94.1	63.6	64.5	77.7	83.7
1936.....	88.3	84.7	76.0	80.9	83.9	96.2	71.9	87.8	75.9	82.1
1937.....	98.3	95.5	77.2	86.4	83.1	87.6	74.2	99.1	75.6	85.5
1938.....	60.6	79.0	63.9	68.5	72.8	78.4	58.2	83.3	67.5	73.6
1939.....	58.6	72.2	62.6	65.3	69.5	74.8	62.0	77.2	64.1	70.4
1940.....	68.0	69.2	66.1	67.7	77.6	78.3	63.1	73.3	63.5	71.3
1935										
January.....	88.8	73.3	76.6	77.6	83.5	91.6	62.8	81.6	76.2	79.9
February.....	87.4	78.4	76.8	79.1	87.0	91.9	63.6	87.9	77.2	82.7
March.....	82.8	85.8	72.1	78.3	82.9	92.1	63.2	91.6	73.4	81.9
April.....	87.9	85.9	74.5	80.4	84.9	93.3	67.3	94.3	76.2	84.5
May.....	83.2	87.6	75.0	80.6	77.7	92.3	66.3	97.0	77.7	84.1
June.....	76.9	84.8	74.3	78.3	74.6	90.5	68.7	94.5	77.2	82.8
July.....	73.3	82.8	72.9	77.1	74.0	92.7	65.1	93.3	76.7	82.1
August.....	79.3	91.6	71.4	79.3	75.7	94.6	60.5	102.0	78.6	84.9
September.....	83.5	92.0	70.4	79.5	76.0	96.8	60.0	102.9	80.8	86.1
October.....	86.4	86.6	70.3	78.2	76.9	98.9	59.1	97.1	81.2	85.0
November.....	77.9	83.1	73.5	77.5	81.1	97.2	63.2	94.3	80.8	85.1
December.....	76.6	87.4	72.8	78.3	83.7	97.2	63.7	97.5	77.5	85.7
1936										
January.....	78.9	89.1	70.8	78.2	84.2	92.1	62.2	94.9	75.5	83.5
February.....	78.3	90.3	72.7	79.5	85.7	88.5	62.4	92.1	78.1	83.2
March.....	75.6	86.3	69.1	76.5	80.3	85.8	65.1	89.7	72.4	80.1
April.....	73.9	86.3	70.4	76.9	78.8	84.2	67.8	91.0	72.4	80.2
May.....	70.6	82.5	71.4	75.2	75.0	82.2	72.3	85.1	71.5	78.0
June.....	73.0	83.2	75.8	78.1	77.6	81.6	82.0	85.1	72.3	79.9
July.....	88.9	82.0	78.2	81.3	83.8	84.4	79.7	84.9	73.4	81.4
August.....	102.4	84.5	77.8	83.8	87.6	87.5	76.1	86.4	75.6	83.1
September.....	102.0	83.8	78.6	84.0	89.5	87.6	71.5	87.3	76.7	83.3
October.....	102.1	81.2	80.2	84.0	87.4	87.5	73.8	84.4	77.4	82.6
November.....	102.9	79.7	82.9	85.1	88.2	85.9	74.8	85.2	81.4	83.9
December.....	109.0	85.0	84.4	88.5	88.9	87.1	75.4	87.2	84.0	85.5

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Farm products				Foods					
	Grains	Livestock and poultry	Other farm products	All farm products	Dairy products	Cereal products	Fruits and vegetables	Meats	Other foods	All foods
<i>1937</i>										
January.....	113.0	91.4	84.8	91.3	88.9	88.1	82.4	90.6	82.1	87.1
February.....	111.5	89.9	86.3	91.4	88.7	89.3	87.8	90.3	78.8	87.0
March.....	113.2	93.7	88.5	94.1	90.2	90.1	86.5	92.0	78.2	87.5
April.....	119.2	93.6	83.4	92.2	78.5	89.8	83.5	94.9	77.0	85.5
May.....	113.9	95.9	79.0	89.8	78.1	88.7	84.1	94.9	75.2	84.2
June.....	105.7	98.3	77.4	88.5	72.0	90.4	84.5	98.0	74.3	84.7
July.....	105.2	105.0	75.1	89.3	76.4	92.3	71.2	108.0	74.6	86.2
August.....	92.0	108.2	71.4	86.4	79.7	87.9	65.3	112.1	73.6	86.7
September.....	91.9	106.7	71.2	85.9	84.8	86.1	64.0	113.4	75.5	88.0
October.....	77.0	98.5	70.1	80.4	85.7	84.6	62.2	107.4	73.4	85.5
November.....	69.2	86.2	70.7	75.7	89.2	81.5	61.5	98.3	73.6	83.1
December.....	71.5	78.4	69.3	72.8	90.2	82.0	57.8	88.8	71.5	79.8
<i>1938</i>										
January.....	75.0	78.5	66.1	71.6	83.3	83.0	56.7	82.6	69.5	76.3
February.....	73.0	78.1	63.5	69.8	78.3	83.2	56.8	78.4	66.7	73.5
March.....	69.0	82.7	62.8	70.3	76.7	80.9	56.5	81.6	65.9	73.5
April.....	66.0	79.3	62.0	68.4	71.7	79.8	56.8	82.2	64.5	72.3
May.....	62.3	77.9	62.2	67.5	69.1	78.4	58.7	82.1	65.4	72.1
June.....	62.7	80.2	63.0	68.7	68.5	80.2	61.7	84.5	64.7	73.1
July.....	58.3	84.4	63.0	69.4	69.5	78.8	56.4	89.7	66.7	74.3
August.....	53.4	80.6	62.6	67.3	68.8	77.0	57.3	86.0	66.5	73.0
September.....	53.0	81.0	63.2	68.1	71.1	76.1	55.5	87.3	69.5	74.5
October.....	50.8	76.2	65.0	66.8	71.6	75.1	57.5	83.3	70.4	73.5
November.....	50.9	75.2	67.4	67.8	72.5	74.0	63.0	81.9	71.0	74.1
December.....	54.4	74.4	66.5	67.6	73.9	74.8	60.4	79.9	69.2	73.1
<i>1939</i>										
January.....	56.3	78.0	63.2	67.2	71.8	73.2	60.9	81.6	63.6	71.5
February.....	54.7	79.2	62.9	67.2	71.6	72.7	62.1	83.2	61.7	71.5
March.....	54.5	78.2	61.0	65.8	64.8	72.3	63.2	82.5	61.9	70.2
April.....	55.2	75.5	58.5	63.7	58.1	72.2	64.3	81.0	61.6	68.6
May.....	59.6	73.2	58.7	63.7	58.6	73.8	63.8	78.6	61.4	68.2
June.....	58.2	69.4	58.8	62.4	60.0	75.9	62.5	75.7	60.8	67.6
July.....	52.3	69.7	60.7	62.6	64.6	71.9	62.0	75.3	60.4	67.5
August.....	51.5	66.0	60.1	61.0	67.9	71.9	58.5	73.7	60.3	67.2
September.....	65.1	76.3	64.6	68.7	74.5	78.8	62.8	81.0	71.7	75.1
October.....	61.6	70.5	66.1	67.1	78.9	78.0	60.2	74.9	70.2	73.3
November.....	64.1	66.1	68.3	67.3	80.1	78.0	61.2	71.2	69.2	72.3
December.....	71.6	63.8	68.4	67.6	81.3	80.5	63.0	69.1	66.5	71.9
<i>1940</i>										
January.....	73.5	67.2	68.6	69.1	81.9	80.4	60.3	69.9	65.8	71.7
February.....	72.8	65.6	68.9	68.7	80.0	82.4	58.7	68.4	66.3	71.1
March.....	73.4	67.1	66.3	67.9	78.6	82.4	58.7	69.2	63.0	70.2
April.....	77.2	68.4	67.4	69.4	77.4	83.2	65.7	71.1	63.2	71.6
May.....	71.2	69.6	65.5	67.9	72.8	81.0	69.2	73.8	62.2	71.4
June.....	64.4	64.7	67.0	66.2	72.2	77.4	73.9	70.7	61.3	70.3
July.....	60.8	69.8	65.6	66.5	73.7	76.2	69.0	72.9	61.3	70.3
August.....	59.3	71.5	63.3	65.6	74.3	75.1	63.2	76.1	60.4	70.1
September.....	61.7	72.4	63.2	66.2	75.1	76.0	60.8	79.0	62.6	71.5
October.....	65.4	70.6	63.8	66.4	77.3	77.0	58.9	75.6	63.4	71.1
November.....	67.7	69.9	66.8	68.2	82.3	74.8	60.4	76.2	65.4	72.5
December.....	67.0	72.7	68.1	69.7	84.2	74.3	61.2	77.0	67.0	73.5
<i>1941</i>										
January.....	67.6	83.0	65.3	71.6	80.2	74.8	59.6	83.2	64.5	73.7
February.....	64.5	82.4	64.2	70.3	79.7	73.8	59.4	83.6	64.2	73.5
March.....	67.8	82.5	65.6	71.6	80.3	75.2	60.7	83.7	68.9	75.2
April.....	70.9	86.2	67.8	74.4	81.0	76.8	63.8	85.6	73.9	77.9
May.....	74.5	88.0	69.5	76.4	81.6	78.2	64.0	87.2	76.9	79.5
June.....	75.9	93.0	76.6	82.1	84.3	79.8	73.0	90.8	79.5	83.1

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Hides and leather products					Textile products				
	Shoes	Hides and skins	Leather	Other leather products	All hides and leather products	Clothing	Cotton goods	Hosiery and underwear	Silk ¹	Rayon ¹
1913.....	54.5	106.8	69.1	50.8	68.1	-----	58.0	-----	71.8	-----
1914.....	56.3	113.4	72.5	51.4	70.9	-----	56.0	-----	71.3	-----
1915.....	58.6	126.2	75.8	55.3	75.5	-----	52.3	-----	68.3	-----
1916.....	69.1	151.5	107.2	64.5	93.4	-----	68.7	-----	87.1	-----
1917.....	91.5	201.3	141.9	85.3	123.8	-----	98.7	-----	98.4	-----
1918.....	97.9	194.2	135.3	97.2	125.7	-----	146.6	-----	116.4	-----
1919.....	134.7	267.4	187.5	133.1	174.1	-----	147.5	-----	145.5	-----
1920.....	151.1	206.7	188.2	140.8	171.3	-----	190.7	-----	162.7	-----
1921.....	111.5	89.5	111.7	118.6	109.2	-----	99.5	-----	110.5	-----
1922.....	98.1	115.8	105.2	113.5	104.6	-----	104.3	-----	121.0	-----
1923.....	99.1	117.6	104.1	103.7	104.2	-----	116.9	-----	129.5	-----
1924.....	98.4	110.2	99.8	103.7	101.5	-----	114.7	-----	103.1	-----
1925.....	100.5	118.7	104.8	102.8	105.3	-----	110.0	-----	104.5	-----
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	102.6	120.3	109.2	102.8	107.7	95.8	97.1	91.9	87.9	82.9
1928.....	109.9	148.6	126.3	108.2	121.4	93.2	100.4	90.1	83.7	83.6
1929.....	106.3	112.7	113.2	106.4	109.1	90.0	98.8	88.5	82.7	68.4
1930.....	102.0	91.0	101.3	105.5	100.0	86.2	84.7	80.0	60.3	57.9
1931.....	93.7	60.2	86.2	101.4	86.1	75.9	66.1	60.9	43.7	41.2
1932.....	86.1	42.1	65.1	90.1	72.9	63.0	54.0	51.6	29.5	35.4
1933.....	90.2	67.1	71.4	81.1	80.9	72.2	71.2	58.9	29.8	33.0
1934.....	98.1	68.6	75.0	86.6	86.6	82.5	86.5	63.2	25.1	31.9
1935.....	98.0	80.8	80.1	85.0	89.6	79.8	83.4	61.8	30.3	31.2
1936.....	99.8	94.6	85.6	95.5	95.4	81.1	80.3	61.2	31.5	31.8
1937.....	105.0	113.5	96.8	102.6	104.6	87.9	84.3	65.1	32.7	33.3
1938.....	102.2	73.6	83.7	98.5	92.8	82.9	65.4	60.3	29.6	28.9
1939.....	102.6	84.6	87.5	97.1	95.6	82.0	67.2	61.4	46.1	28.8
1940.....	107.6	91.9	92.5	99.9	100.8	85.2	71.4	62.3	46.8	29.5
<i>1935</i>										
January.....	97.1	71.1	74.3	85.0	86.2	78.4	84.1	63.5	27.5	32.4
February.....	97.2	69.6	74.6	84.6	86.0	78.5	83.3	63.6	26.8	32.4
March.....	97.2	66.6	74.2	84.6	85.4	78.5	82.4	62.5	25.6	32.4
April.....	97.2	71.2	74.9	84.6	86.3	78.5	81.8	61.6	26.5	31.5
May.....	97.2	76.1	79.6	84.4	88.3	78.5	82.7	60.4	27.0	30.2
June.....	97.3	78.0	80.5	84.4	88.9	80.7	82.5	59.5	26.4	30.2
July.....	97.8	79.8	80.2	84.4	89.2	80.7	82.0	59.9	27.5	30.2
August.....	98.3	80.4	80.2	84.4	89.6	80.5	82.5	60.2	31.6	30.9
September.....	98.3	83.8	83.0	84.5	90.9	80.8	83.2	61.6	34.2	31.1
October.....	98.4	92.9	86.6	85.0	93.6	80.8	84.6	63.2	37.3	31.1
November.....	99.6	96.0	88.1	86.3	95.0	80.7	85.8	63.2	27.2	31.1
December.....	100.1	96.5	87.6	87.1	95.4	81.0	86.0	62.2	35.3	31.1
<i>1936</i>										
January.....	100.5	100.5	87.3	95.3	97.1	80.8	80.4	61.8	35.1	31.1
February.....	100.5	96.7	86.0	95.4	96.1	80.7	78.1	62.0	32.3	31.1
March.....	100.4	91.0	85.0	95.4	94.9	80.7	77.1	62.1	31.3	31.1
April.....	100.3	90.1	84.5	95.4	94.6	80.8	76.2	62.0	30.2	31.1
May.....	100.2	87.3	84.4	95.4	94.0	81.1	75.5	60.6	28.7	31.1
June.....	99.7	89.0	83.2	95.4	93.8	80.9	75.4	60.3	28.9	31.3
July.....	99.3	87.8	83.0	95.4	93.4	80.7	78.7	59.3	30.6	32.1
August.....	99.3	90.0	82.4	95.4	93.6	80.8	79.5	60.3	31.8	32.4
September.....	99.3	93.3	84.2	95.4	94.6	80.8	80.0	60.8	29.8	32.4
October.....	99.3	97.2	85.4	95.4	95.6	81.2	82.0	61.1	31.1	32.4
November.....	99.3	101.2	88.4	95.9	97.0	81.5	85.5	61.2	34.4	32.4
December.....	99.4	110.4	92.6	96.3	99.7	83.1	90.3	63.0	34.9	32.4
<i>1937</i>										
January.....	99.7	116.0	94.3	101.1	101.7	83.9	91.9	64.4	35.9	32.4
February.....	101.4	114.9	95.5	101.7	102.7	84.2	91.3	64.7	34.8	32.4
March.....	102.3	118.5	97.1	101.7	104.2	84.8	94.0	64.9	34.6	32.4
April.....	103.8	121.4	100.7	102.3	106.3	86.8	95.1	65.9	34.4	33.6
May.....	106.1	117.7	100.6	102.3	106.7	87.2	92.6	65.7	32.6	33.6

¹ Silk and rayon combined from 1913 to 1925, inclusive.

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Hides and leather products					Textile products				
	Shoes	Hides and skins	Leather	Other leather products	All hides and leather products	Clothing	Cotton goods	Hosiery and underwear	Silk	Rayon
<i>1937</i>										
June.....	107.5	114.6	98.8	102.3	106.4	89.1	89.7	64.6	32.6	33.6
July.....	107.4	116.2	98.7	102.7	106.7	90.1	86.8	64.8	34.6	33.6
August.....	107.4	122.1	100.0	103.2	108.1	90.0	82.2	65.7	33.2	33.6
September.....	107.5	120.7	98.9	103.3	107.6	89.7	76.8	66.5	32.4	33.6
October.....	107.6	117.1	97.2	103.3	106.7	89.4	73.1	65.8	29.9	33.6
November.....	106.9	94.6	92.7	103.1	101.4	87.3	70.5	64.2	29.2	33.6
December.....	105.6	85.5	86.9	102.7	97.7	86.7	68.7	63.4	28.2	33.6
<i>1938</i>										
January.....	104.7	82.3	86.6	102.4	96.7	86.3	68.2	63.0	27.9	32.1
February.....	104.6	74.6	84.4	102.4	94.7	85.8	67.6	60.9	28.3	29.5
March.....	104.6	69.5	83.3	102.2	93.6	84.6	67.5	60.3	28.7	29.5
April.....	104.5	62.6	82.2	102.2	92.1	84.6	65.7	60.6	28.5	29.5
May.....	102.5	63.4	82.1	102.4	91.3	82.2	65.0	60.5	28.3	28.7
June.....	101.8	62.3	81.6	97.7	90.1	82.2	63.9	59.7	28.0	27.4
July.....	101.2	70.8	82.5	97.5	91.5	81.7	65.1	59.8	31.4	27.4
August.....	100.8	75.6	82.1	97.0	91.9	81.7	64.4	59.8	29.8	28.5
September.....	100.8	75.7	82.4	96.9	92.0	81.6	64.1	59.9	30.3	28.5
October.....	100.3	82.1	84.6	96.9	93.4	81.6	64.6	59.9	32.0	28.5
November.....	100.4	85.5	86.9	96.6	94.6	81.6	65.1	59.9	31.1	28.5
December.....	100.6	78.8	85.9	95.8	93.1	81.6	64.6	59.3	31.5	28.5
<i>1939</i>										
January.....	101.2	78.4	85.0	95.3	93.1	81.5	64.3	59.1	33.3	28.5
February.....	101.1	72.8	84.2	95.3	91.9	81.5	63.7	58.8	36.8	28.5
March.....	101.2	73.8	82.7	95.6	91.8	81.5	63.7	59.9	38.4	28.5
April.....	101.2	68.3	82.8	95.6	90.9	81.6	63.4	60.2	41.1	28.5
May.....	101.3	72.1	83.1	95.6	91.6	81.7	63.3	60.2	45.6	28.5
June.....	101.3	75.3	83.8	95.6	92.3	81.7	64.1	60.1	43.3	28.5
July.....	100.8	76.9	84.1	95.6	92.5	81.2	65.1	60.2	45.0	28.5
August.....	100.8	77.2	84.0	97.1	92.7	81.5	65.5	61.5	44.3	28.5
September.....	101.8	97.4	92.0	97.1	98.5	81.7	70.4	62.8	49.7	29.0
October.....	105.7	112.4	97.8	99.3	104.6	83.2	74.3	63.5	54.3	29.5
November.....	107.2	104.3	97.8	99.9	104.0	83.8	74.8	64.8	56.5	29.5
December.....	107.5	105.2	95.2	100.0	103.7	84.2	75.2	66.0	66.0	29.5
<i>1940</i>										
January.....	107.8	102.6	96.0	100.0	103.6	84.5	75.4	68.4	61.8	29.5
February.....	108.2	97.0	94.2	100.0	102.4	84.9	73.6	64.5	51.6	29.5
March.....	108.4	94.3	93.5	100.0	101.8	85.1	71.8	62.2	49.9	29.5
April.....	108.2	94.8	93.2	100.0	101.8	84.7	70.2	61.7	45.4	29.5
May.....	107.9	92.2	93.6	100.0	101.3	85.0	69.4	61.3	47.0	29.5
June.....	107.9	81.9	92.4	100.0	99.2	85.3	68.4	61.6	46.1	29.5
July.....	107.0	84.6	91.4	99.7	99.0	85.3	68.3	61.5	43.3	29.5
August.....	107.0	77.1	88.3	99.7	96.9	85.6	68.6	61.5	43.0	29.5
September.....	107.0	84.0	88.9	99.7	98.3	85.6	69.2	61.4	42.8	29.5
October.....	107.0	93.8	90.9	99.7	100.4	85.7	71.5	61.4	44.7	29.5
November.....	107.1	101.2	93.2	99.7	102.3	85.7	73.6	61.5	42.8	29.5
December.....	107.2	99.3	94.1	99.7	102.3	85.5	74.9	60.7	42.5	29.5
<i>1941</i>										
January.....	107.4	99.1	94.4	99.7	102.4	86.6	75.8	59.9	42.5	29.5
February.....	107.4	94.8	94.5	99.7	101.6	87.2	77.5	60.3	43.3	29.5
March.....	107.4	99.1	94.8	100.5	102.6	87.7	81.1	60.4	47.7	29.5
April.....	107.8	104.7	95.6	100.5	103.9	88.7	86.8	61.1	48.3	29.5
May.....	110.1	110.3	96.9	101.7	106.4	90.9	91.0	61.3	49.1	29.5
June.....	111.7	112.4	97.9	102.1	107.8	91.6	94.6	61.9	51.2	29.5

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Textile products—Con.			Fuel and lighting materials						
	Woolen and worsted goods	Other textile products	All textile products	Anthracite	Bituminous coal	Coke	Electricity	Gas	Petroleum products	All fuel and lighting materials
1913.....	53.7	62.7	57.3	58.9	38.1	46.3	-----	78.1	73.3	61.3
1914.....	50.5	55.0	54.6	59.6	34.8	37.5	-----	78.4	65.8	56.6
1915.....	55.0	60.3	54.1	59.5	33.9	37.8	-----	78.3	54.1	51.8
1916.....	70.4	81.9	70.4	63.9	55.5	52.0	-----	78.0	87.3	74.3
1917.....	101.7	132.2	98.7	72.4	98.4	106.6	-----	76.5	112.1	105.4
1918.....	138.6	169.7	137.2	82.3	81.4	100.9	-----	79.4	135.3	109.2
1919.....	124.3	124.2	135.3	75.8	79.8	84.4	-----	86.4	128.0	104.3
1920.....	153.7	104.5	164.8	92.5	165.4	162.3	-----	98.2	183.5	163.7
1921.....	91.9	63.1	94.5	92.5	77.7	90.6	-----	115.6	104.4	96.8
1922.....	95.7	70.8	100.2	95.3	113.1	119.1	-----	110.3	102.9	107.3
1923.....	107.5	77.4	111.3	100.8	113.4	118.8	-----	104.8	82.6	97.3
1924.....	106.8	87.1	106.7	98.6	99.7	97.2	-----	102.9	83.5	92.0
1925.....	110.2	104.1	108.3	99.7	96.5	97.7	-----	101.9	95.0	96.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	97.8	98.2	95.6	96.3	100.3	94.4	102.9	98.0	72.7	88.3
1928.....	100.1	95.4	95.5	91.7	93.6	84.6	96.6	94.9	72.0	84.3
1929.....	88.3	93.1	90.4	90.1	91.3	84.6	94.5	93.1	71.3	83.0
1930.....	79.0	84.2	80.3	89.1	89.4	84.0	97.7	97.3	61.5	78.5
1931.....	68.2	75.1	66.3	91.1	84.6	82.4	98.8	98.7	39.5	67.5
1932.....	57.7	67.9	54.9	88.4	82.0	77.7	104.7	101.3	45.4	70.3
1933.....	69.3	72.5	64.8	82.2	82.8	77.9	94.3	97.5	41.0	66.3
1934.....	79.7	73.1	72.9	80.1	94.5	84.8	91.8	93.4	50.5	73.3
1935.....	76.1	68.5	70.9	79.7	96.7	88.6	87.8	89.3	51.3	73.5
1936.....	82.9	67.0	71.5	80.5	97.4	94.7	83.4	82.2	57.3	76.2
1937.....	91.1	68.4	76.3	77.8	98.6	103.1	80.4	85.4	60.5	77.6
1938.....	77.4	65.5	66.7	78.0	99.0	104.8	84.9	86.1	55.9	76.5
1939.....	79.8	69.2	69.7	75.8	97.5	105.6	78.6	84.1	52.2	73.1
1940.....	85.7	74.5	73.8	78.9	97.6	110.2	74.5	82.0	50.0	71.7
<i>1935</i>										
January.....	73.8	68.8	70.3	82.3	96.3	86.4	89.9	87.6	48.8	72.9
February.....	73.6	68.6	70.1	82.3	96.4	88.8	90.3	87.7	48.7	72.5
March.....	73.1	67.7	69.4	81.1	96.3	88.8	88.3	88.6	49.8	73.0
April.....	73.1	67.5	69.2	75.5	95.4	88.7	87.8	88.0	51.0	72.8
May.....	73.5	68.2	69.4	73.0	95.7	88.7	88.7	92.0	52.2	73.1
June.....	75.6	68.9	70.1	74.0	96.1	88.7	90.2	95.2	53.2	74.2
July.....	76.4	69.1	70.2	77.0	96.5	88.6	87.8	94.0	52.9	74.7
August.....	76.4	69.1	70.9	78.6	96.0	88.6	86.7	91.8	52.4	74.1
September.....	76.9	69.9	71.8	80.6	96.2	88.6	87.5	91.9	50.6	73.0
October.....	79.1	68.3	72.9	82.5	98.0	88.8	86.3	89.0	50.1	73.4
November.....	80.7	68.5	73.4	83.0	98.5	88.9	86.2	86.6	52.5	74.5
December.....	81.0	68.1	73.2	82.9	98.7	89.6	84.9	84.5	52.8	74.6
<i>1936</i>										
January.....	81.4	67.8	71.7	82.3	98.7	92.7	83.1	83.2	54.4	75.1
February.....	82.8	67.2	71.0	82.6	100.1	93.7	86.2	82.1	55.7	76.1
March.....	83.8	67.2	70.8	82.5	99.4	93.7	84.4	84.4	56.0	76.2
April.....	82.2	67.5	70.2	80.0	96.8	93.7	82.8	84.8	57.9	76.4
May.....	82.2	67.5	69.8	76.6	96.5	93.7	84.2	87.3	58.2	76.0
June.....	82.6	66.9	69.7	77.0	96.5	93.7	83.4	88.0	57.7	76.1
July.....	82.0	66.8	70.5	78.5	96.0	93.7	83.4	87.9	58.1	76.2
August.....	81.2	67.0	70.9	79.1	96.4	93.7	82.6	86.1	57.9	76.3
September.....	80.9	67.1	70.9	80.6	97.0	93.9	83.2	87.2	57.5	76.1
October.....	80.5	67.0	71.6	81.8	97.3	97.8	82.8	86.0	57.9	76.8
November.....	84.3	66.5	73.5	82.4	97.2	97.8	82.7	81.9	58.1	76.8
December.....	90.5	65.3	76.3	82.3	97.3	97.8	82.7	83.1	58.0	76.5
<i>1937</i>										
January.....	91.9	66.2	77.5	81.6	96.8	97.6	81.0	82.2	58.3	76.6
February.....	93.1	65.9	77.5	81.6	97.4	97.6	80.8	80.7	59.1	76.8
March.....	92.6	66.5	78.3	77.8	97.5	97.7	77.8	79.8	58.6	76.2
April.....	93.5	68.8	79.5	72.4	98.6	102.8	77.1	80.7	59.8	76.8
May.....	93.3	68.9	78.7	74.2	98.5	105.1	78.8	83.0	60.9	77.2

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Textile products—Con.			Fuel and lighting materials						
	Woolen and worsted goods	Other textile products	All textile products	Anthracite	Bituminous coal	Coke	Electricity	Gas	Petroleum products	All fuel and lighting materials
<i>1937</i>										
June.....	93.2	67.5	78.2	74.5	98.5	105.0	79.5	84.2	61.5	77.5
July.....	94.4	69.3	78.3	76.6	98.6	104.9	80.0	84.0	61.8	78.1
August.....	93.9	71.1	77.1	76.8	98.7	104.9	79.4	82.6	62.0	78.4
September.....	92.4	70.0	75.3	78.7	99.2	105.0	80.5	84.0	62.2	78.7
October.....	90.1	69.0	73.5	78.8	99.3	105.3	81.0	83.6	61.7	78.5
November.....	85.1	69.0	71.2	79.8	99.2	105.4	83.1	83.1	60.6	78.2
December.....	83.5	68.5	70.1	80.0	101.1	105.5	86.8	81.3	59.5	78.4
<i>1938</i>										
January.....	83.8	67.7	69.7	80.1	103.2	105.5	89.1	81.8	58.8	78.3
February.....	81.0	67.0	68.6	79.8	103.2	105.5	89.6	82.9	58.0	78.5
March.....	80.2	67.0	68.2	79.3	99.5	105.5	86.8	83.4	57.9	77.7
April.....	77.1	66.0	67.2	76.0	97.5	105.5	87.0	85.2	57.5	76.8
May.....	76.0	65.3	66.1	73.8	97.5	105.5	86.4	88.3	56.4	76.4
June.....	75.6	65.0	65.5	74.5	97.5	105.3	85.0	90.4	56.3	76.2
July.....	75.9	65.4	66.1	76.2	97.9	104.2	84.7	91.0	56.8	76.8
August.....	76.3	65.2	65.9	77.9	98.1	104.2	81.6	88.1	56.7	76.8
September.....	76.3	65.0	65.8	79.1	98.4	104.2	81.8	88.7	56.4	76.6
October.....	76.3	65.3	66.2	79.1	98.7	104.2	81.8	87.1	53.8	75.4
November.....	76.4	64.5	66.2	80.1	98.5	104.2	81.8	84.6	51.5	73.7
December.....	74.8	64.4	65.8	80.1	98.5	104.2	82.7	81.6	50.9	73.2
<i>1939</i>										
January.....	74.5	64.4	65.9	80.3	98.3	104.2	82.9	82.2	50.4	72.8
February.....	74.7	64.5	66.1	79.9	98.1	104.2	82.8	81.8	50.7	73.0
March.....	75.1	64.3	66.6	79.4	97.9	104.2	80.3	82.2	50.9	73.1
April.....	75.2	64.9	66.9	74.7	98.6	104.2	81.4	84.1	51.9	73.4
May.....	75.4	65.3	67.5	75.3	99.0	104.2	79.3	86.0	52.5	73.9
June.....	75.6	64.2	67.3	75.5	95.6	104.2	77.8	88.9	52.5	73.0
July.....	75.4	64.1	67.6	72.6	95.8	104.2	78.1	89.0	52.2	72.8
August.....	75.5	63.7	67.8	72.1	96.0	104.2	75.8	86.7	51.7	72.6
September.....	84.0	69.8	71.7	72.5	96.7	104.2	77.5	87.2	53.3	72.8
October.....	81.3	78.3	75.5	75.3	98.2	105.0	75.4	84.4	54.0	73.9
November.....	80.5	83.4	76.4	76.1	98.1	111.2	76.5	82.2	53.9	74.1
December.....	80.3	84.2	78.0	76.1	97.8	109.9	77.7	80.4	52.5	72.8
<i>1940</i>										
January.....	90.4	81.3	77.9	78.7	98.0	109.8	77.6	78.6	51.7	72.7
February.....	87.2	76.8	75.4	79.2	98.2	109.7	78.2	81.6	50.9	72.4
March.....	84.5	74.9	74.0	79.2	97.3	109.6	77.1	80.4	50.4	72.2
April.....	83.8	74.6	72.9	77.4	96.4	109.6	76.0	82.0	50.4	71.8
May.....	83.4	75.7	72.9	76.5	95.8	109.6	73.9	84.4	50.7	71.7
June.....	83.7	74.0	72.6	77.1	95.7	109.6	74.2	87.4	50.0	71.4
July.....	83.9	73.0	72.4	78.1	95.8	109.6	73.3	88.2	49.5	71.1
August.....	83.7	71.9	72.3	79.0	96.2	109.6	72.4	84.5	49.2	71.1
September.....	84.2	71.6	72.5	79.6	96.8	109.6	73.5	84.8	48.9	71.0
October.....	86.3	72.1	73.6	80.7	100.4	109.7	71.6	82.4	49.0	71.6
November.....	88.8	73.7	74.5	80.7	100.4	112.6	73.3	80.5	49.3	71.9
December.....	89.0	74.6	74.8	80.9	100.4	113.6	73.4	78.2	49.5	71.7
<i>1941</i>										
January.....	89.2	74.8	75.2	81.1	100.4	113.8	72.5	77.5	50.0	72.1
February.....	91.2	76.8	76.4	81.1	100.3	113.8	72.5	77.6	50.0	72.1
March.....	93.2	80.1	78.4	81.0	100.3	113.8	70.0	77.0	49.9	72.0
April.....	93.3	89.3	81.0	80.9	100.0	113.8	69.2	71.1	51.9	72.9
May.....	94.1	92.0	83.0	80.7	102.9	120.4	67.7	80.1	55.3	75.6
June.....	94.6	94.1	84.5	81.0	103.7	122.2	67.2	81.0	59.9	77.9

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Metals and metal products						Building materials			
	Agricultural implements	Iron and steel	Motor vehicles	Non-ferrous metals	Plumbing and heating	Other metal products	All metals and metal products	Brick and tile	Cement	Lumber
1913	72.9	70.9	147.5	88.9	-----	53.7	90.8	38.9	59.6	54.0
1914	73.1	61.4	125.0	76.3	-----	53.8	80.2	38.8	55.0	49.9
1915	71.2	64.7	115.5	108.6	-----	54.2	86.3	39.1	51.0	48.7
1916	71.0	109.7	107.6	160.2	-----	56.3	116.5	42.4	65.4	55.1
1917	86.3	176.7	110.4	165.7	-----	62.3	150.6	50.2	80.3	72.2
1918	114.0	147.0	121.0	144.4	-----	74.2	136.5	66.7	94.6	83.5
1919	113.8	130.0	142.5	118.9	-----	81.5	130.9	91.9	102.3	113.0
1920	111.9	157.1	160.7	118.3	-----	100.9	149.4	118.4	117.2	165.2
1921	111.4	109.4	143.4	78.3	-----	97.6	117.5	105.7	110.8	88.9
1922	88.2	98.1	116.6	83.5	-----	94.7	102.9	99.4	103.5	99.1
1923	98.8	117.3	108.7	95.3	-----	103.3	109.3	103.6	107.9	111.8
1924	105.7	109.4	107.5	93.0	-----	101.7	106.3	103.4	105.7	99.3
1925	100.4	102.2	105.3	101.4	-----	100.5	103.2	100.1	102.6	100.6
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	99.7	94.2	96.1	92.8	92.0	-----	96.3	95.7	95.4	93.1
1928	93.5	93.5	97.1	94.0	95.1	-----	97.0	95.6	92.5	90.5
1929	98.7	94.9	100.0	106.1	95.0	-----	106.5	94.3	89.0	93.8
1930	95.0	89.1	94.0	82.4	88.6	-----	92.1	89.8	89.8	85.8
1931	92.1	83.3	89.5	61.9	84.7	-----	84.5	83.6	74.8	69.5
1932	84.9	79.4	87.1	49.8	66.8	-----	80.2	77.3	74.3	58.5
1933	83.5	78.6	83.2	59.6	67.1	-----	79.8	79.2	58.1	70.7
1934	89.6	86.7	87.6	67.7	72.6	-----	86.9	90.2	93.1	84.5
1935	93.7	86.7	84.1	68.6	68.9	-----	86.4	89.4	92.7	* 81.8
1936	94.2	87.6	83.3	71.6	75.0	-----	87.0	88.7	92.2	87.0
1937	94.0	98.2	89.3	89.6	78.8	-----	95.7	93.5	89.0	99.7
1938	95.5	98.6	95.4	72.8	78.5	-----	95.7	91.0	90.3	87.4
1939	93.4	95.8	93.4	78.0	79.2	-----	94.4	91.4	91.3	93.2
1940	92.5	95.1	96.7	81.3	80.4	-----	95.8	90.5	90.8	102.9

Year and month	Metals and metal products						Building materials		
	Agricultural implements	Iron and steel	Motor vehicles	Non-ferrous metals	Plumbing and heating	All metals and metal products	Brick and tile	Cement	Lumber
<i>1935</i>									
January	92.7	85.7	(3)	67.6	68.0	85.8	91.1	93.0	79.9
February	93.6	86.1	(3)	67.2	67.1	85.8	90.6	92.7	79.4
March	93.6	86.0	(3)	67.1	67.2	85.7	90.2	92.8	78.0
April	93.6	86.6	(3)	68.2	67.1	85.9	89.7	93.0	78.2
May	93.6	86.6	(3)	69.2	67.1	86.6	89.3	93.2	80.0
June	93.6	87.1	(3)	69.1	66.2	86.9	89.2	93.0	83.4
July	93.6	87.0	(3)	66.1	68.8	86.4	89.1	93.0	85.1
August	93.6	87.1	(3)	66.9	71.1	86.6	89.0	93.0	84.9
September	93.7	86.8	(3)	68.6	71.1	86.6	88.8	92.3	84.3
October	93.7	86.9	(3)	70.9	71.1	86.5	88.3	92.1	83.3
November	94.6	87.0	(3)	71.3	71.1	86.9	88.3	92.4	81.8
December	94.6	86.9	(3)	70.6	71.1	86.8	88.9	92.3	82.7
<i>1936</i>									
January	94.6	87.1	(3)	69.7	71.7	86.7	88.4	92.5	84.0
February	94.9	86.9	(3)	69.7	73.8	86.7	88.4	92.4	84.5
March	94.2	86.3	(3)	69.9	73.8	86.6	88.9	92.4	86.1
April	94.2	86.3	(3)	70.4	73.8	86.6	89.0	92.4	87.8
May	94.2	86.3	(3)	70.7	73.8	86.3	88.8	92.4	88.0
June	94.2	86.3	(3)	70.0	73.8	86.2	89.2	92.4	87.2
July	94.2	87.6	(3)	70.4	76.5	86.9	89.2	92.4	86.5
August	94.2	87.9	(3)	70.8	76.5	87.1	89.1	92.4	85.8
September	94.2	88.1	(3)	71.4	76.5	86.8	89.0	92.4	86.6
October	93.9	88.8	(3)	71.7	76.6	86.9	88.3	92.4	87.5
November	92.9	88.9	(3)	75.4	76.7	87.9	88.8	92.1	87.9
December	93.0	90.9	(3)	78.6	76.7	89.6	88.5	90.3	91.4

* New series beginning January 1935.
 † No monthly data available.

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Metals and metal products						Building materials		
	Agricultural implements	Iron and steel	Motor vehicles	Non-ferrous metals	Plumbing and heating	All metals and metal products	Brick and tile	Cement	Lumber
<i>1937</i>									
January.....	93.0	91.7	86.3	84.8	77.1	90.9	89.7	89.3	96.7
February.....	93.1	92.0	86.3	89.4	77.4	91.7	91.0	89.3	103.2
March.....	93.1	97.5	86.3	101.1	77.6	96.0	91.8	89.1	105.9
April.....	92.1	99.6	86.9	97.0	78.7	96.5	94.9	89.1	106.9
May.....	93.8	99.6	86.9	91.7	78.7	95.8	95.0	89.1	105.0
June.....	94.1	99.7	86.9	91.9	78.7	95.9	95.0	89.0	102.3
July.....	94.2	99.8	87.0	92.7	78.7	96.1	95.4	88.9	100.0
August.....	94.2	99.9	90.2	93.3	78.8	97.0	95.5	88.8	99.2
September.....	94.2	99.8	91.2	92.6	80.6	97.1	95.0	88.6	98.6
October.....	94.2	99.7	92.2	85.5	80.6	96.4	93.4	88.3	95.9
November.....	95.9	99.3	95.3	78.5	79.6	96.8	92.9	88.8	93.2
December.....	96.1	99.0	95.6	75.1	79.6	96.3	92.0	89.7	89.7
<i>1938</i>									
January.....	96.2	99.6	95.6	75.0	79.6	96.6	91.8	89.8	88.4
February.....	96.2	99.3	95.6	72.1	79.6	96.0	91.5	89.8	88.0
March.....	96.2	99.4	95.6	71.6	78.9	96.0	91.1	89.8	87.9
April.....	96.3	100.4	95.6	70.7	77.2	96.3	90.4	89.9	87.1
May.....	96.3	101.8	95.8	68.8	77.2	96.7	90.5	90.1	85.7
June.....	96.1	100.9	96.0	67.2	77.2	96.1	90.6	89.9	83.9
July.....	95.9	97.2	96.0	71.8	79.5	95.2	90.7	91.0	84.4
August.....	95.5	97.3	96.1	72.9	79.2	95.4	90.6	91.0	86.9
September.....	95.5	97.3	96.2	73.5	78.5	95.5	90.9	90.7	87.4
October.....	95.4	96.9	95.0	76.2	78.5	95.3	91.1	90.7	87.9
November.....	93.7	96.9	93.6	77.6	78.7	94.9	91.5	90.6	89.8
December.....	93.5	96.8	93.4	76.8	78.7	94.6	91.5	90.6	90.8
<i>1939</i>									
January.....	93.4	96.4	93.4	76.7	78.7	94.4	92.4	90.6	91.5
February.....	93.2	96.1	93.4	76.5	79.2	94.3	92.4	91.2	91.7
March.....	93.2	96.1	93.4	76.6	79.3	94.3	92.5	91.5	91.4
April.....	93.3	96.1	93.4	74.7	79.3	94.0	93.0	91.5	91.3
May.....	93.4	95.7	93.0	73.1	79.3	93.5	91.7	91.5	90.5
June.....	93.4	95.2	93.0	72.9	79.3	93.2	91.1	91.5	89.7
July.....	93.4	95.1	93.0	73.3	79.3	93.2	90.6	91.5	89.6
August.....	93.5	95.1	92.5	74.6	79.3	93.2	90.5	91.3	90.1
September.....	93.5	95.5	92.1	84.7	79.3	94.8	91.0	91.3	93.8
October.....	93.4	96.0	93.9	85.3	79.3	95.8	91.5	91.3	99.6
November.....	93.3	96.0	94.7	85.1	79.3	96.0	91.6	91.3	100.1
December.....	93.3	96.1	94.7	84.6	79.3	96.0	91.6	91.3	99.5
<i>1940</i>									
January.....	93.4	96.3	94.7	82.6	79.3	95.8	91.6	91.4	98.7
February.....	93.4	96.3	94.7	79.2	79.1	95.3	91.2	91.4	97.7
March.....	93.4	96.4	94.8	70.7	81.0	95.5	90.4	91.2	97.4
April.....	93.5	94.3	94.8	79.2	80.9	94.5	90.2	90.3	96.7
May.....	92.5	94.2	94.8	80.3	80.6	94.5	90.2	90.5	96.0
June.....	92.5	94.3	94.8	81.2	80.5	94.7	90.2	90.6	94.8
July.....	92.4	94.6	95.6	80.8	80.5	95.1	90.1	90.6	94.8
August.....	92.3	94.8	95.6	79.1	80.5	94.9	90.1	90.6	98.4
September.....	92.4	94.9	96.1	80.7	80.5	95.4	90.2	90.6	107.1
October.....	92.5	94.9	100.1	83.6	80.5	97.3	90.2	90.7	114.4
November.....	92.6	95.3	100.3	83.9	80.5	97.6	90.2	90.8	117.5
December.....	92.6	95.4	100.3	83.4	80.5	97.6	91.1	90.9	118.8
<i>1941</i>									
January.....	92.7	95.7	100.3	83.6	80.5	97.7	91.3	90.8	118.4
February.....	92.8	95.5	99.8	84.0	82.2	97.6	91.4	90.8	117.2
March.....	92.7	95.7	99.8	84.3	82.8	97.7	91.5	90.8	116.7
April.....	92.3	95.9	100.1	84.3	83.0	97.9	91.7	91.0	116.7
May.....	92.4	96.1	100.2	84.4	83.0	98.1	91.9	91.5	116.8
June.....	92.4	96.5	100.3	84.5	83.1	98.3	92.5	91.9	117.6

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Building materials—Continued					Chemicals and allied products					
	Paint and paint materials	Plumbing and heating	Structural steel	Other building materials	All building materials	Chemicals	Drugs and pharmaceuticals	Fertilizer materials	Mixed fertilizers	Oils and fats	All chemicals and allied products
1913	50.8		77.1	63.1	56.7	89.4	56.6	85.5	84.3		
1914	50.7		60.0	59.7	52.7	91.0	60.8	78.3	85.5		
1915	54.8		65.3	65.1	53.5	127.8	82.9	133.7	92.0		
1916	77.1		128.9	87.8	67.6	196.9	88.8	205.2	142.2		
1917	95.3		190.8	114.0	88.2	187.6	108.3	228.0	137.7		
1918	121.9		153.2	121.0	98.6	137.3	130.2	236.9	195.0		
1919	140.3		128.7	116.8	115.6	145.8	113.7	191.8	221.7		
1920	148.1		144.4	135.0	150.1	166.5	119.8	211.6	177.1		
1921	83.9		104.4	111.1	97.4	108.9	96.2	117.9	162.5		
1922	93.8		88.5	95.3	97.3	97.2	93.3	102.3	119.0		
1923	101.3		123.7	105.5	108.7	100.6	95.7	102.5	107.4		
1924	99.7		114.2	104.0	102.3	102.2	95.8	92.6	95.9		
1925	109.3		102.2	100.4	101.7	104.1	97.7	98.8	100.4		
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	96.3	92.0	94.7	95.4	94.7	99.5	86.0	98.4	90.3	92.5	96.1
1928	93.1	95.1	95.2	97.7	94.1	98.6	67.8	100.1	96.1	95.4	95.0
1929	94.9	95.0	98.1	97.7	85.4	99.7	66.8	95.6	95.2	89.0	94.0
1930	90.5	88.6	87.3	93.3	89.9	96.9	63.8	87.8	91.9	71.0	88.7
1931	79.4	84.7	83.1	84.8	79.2	90.2	59.2	76.6	80.5	48.9	79.3
1932	71.1	66.8	80.9	79.5	71.4	88.8	55.0	63.7	68.4	40.0	73.9
1933	73.3	67.1	83.1	84.8	73.2	90.2	56.8	62.9	64.0	39.4	72.1
1934	79.5	72.6	90.8	90.3	86.2	86.8	74.8	64.6	72.0	40.6	75.3
1935	79.8	68.9	92.0	90.1	85.3	88.6	77.6	63.5	71.0	61.7	79.0
1936	80.1	75.0	95.0	90.2	86.7	87.9	80.1	63.3	68.5	63.2	78.7
1937	83.4	78.8	113.2	99.1	95.2	88.2	86.6	69.0	73.8	76.8	82.6
1938	81.3	78.5	111.0	92.7	90.3	86.4	79.0	67.0	72.6	49.6	77.0
1939	82.8	79.2	107.3	90.3	90.5	84.7	78.2	67.9	73.0	48.4	76.0
1940	85.7	80.4	107.3	93.3	94.8	85.1	88.9	69.4	73.8	44.3	77.0
1935											
January	79.0	68.0	92.0	90.3	84.9	87.1	76.1	65.1	73.4	56.0	77.8
February	78.8	67.1	92.0	90.3	85.0	87.2	76.2	64.7	73.1	62.8	78.7
March	79.4	67.2	92.0	90.1	84.9	87.3	76.2	64.3	73.0	68.6	79.4
April	79.2	67.1	92.0	89.4	84.6	87.7	77.3	64.2	73.1	65.5	79.3
May	79.9	67.1	92.0	89.8	84.8	87.9	77.8	63.8	73.3	66.6	79.6
June	79.8	66.2	92.0	90.0	85.3	88.0	77.8	63.2	74.5	62.2	79.1
July	79.1	68.8	92.0	89.7	85.2	88.1	77.7	62.0	69.4	55.7	77.6
August	78.6	71.1	92.0	90.1	85.4	89.9	77.7	62.9	68.8	55.6	78.5
September	80.8	71.1	92.0	90.3	85.9	90.0	77.9	62.8	68.3	58.8	78.9
October	81.9	71.1	92.0	90.5	86.1	90.0	78.6	63.9	68.2	63.6	79.8
November	80.3	71.1	92.0	90.6	85.8	90.1	78.8	64.1	68.2	62.5	79.7
December	80.0	71.1	92.0	90.0	85.5	89.8	78.7	61.1	68.4	61.9	79.1
1936											
January	79.6	71.7	92.0	90.2	85.7	89.4	78.6	60.9	69.4	61.8	79.0
February	79.5	73.8	92.0	89.5	85.5	89.3	78.4	60.9	69.5	60.1	78.7
March	79.2	73.8	92.0	88.5	85.3	88.7	78.3	61.5	68.2	57.2	77.9
April	79.3	73.8	92.0	89.1	85.7	88.5	78.6	61.7	65.8	55.6	77.4
May	78.8	73.8	92.0	89.9	85.8	88.1	78.5	61.6	65.8	50.4	76.5
June	79.5	73.8	92.5	90.1	85.8	87.9	78.4	61.4	66.1	51.9	76.5
July	80.4	76.5	97.1	90.2	86.7	87.7	78.2	63.0	68.4	58.2	77.7
August	81.0	76.5	97.1	90.3	86.9	87.0	78.5	64.8	68.9	61.6	78.1
September	80.6	76.5	97.1	90.3	87.1	87.1	81.3	65.1	69.5	69.5	79.5
October	80.2	76.6	97.1	90.4	87.3	87.2	83.0	65.5	69.7	71.1	80.1
November	80.5	76.7	97.1	90.9	87.7	87.0	84.8	66.2	69.8	75.1	80.7
December	82.4	76.7	101.7	92.6	89.5	87.5	84.6	67.4	71.3	86.4	82.8
1937											
January	83.7	77.1	104.7	93.9	91.3	87.7	86.7	68.8	71.7	97.0	84.7
February	83.4	77.4	104.7	95.0	93.3	88.2	92.1	69.1	72.1	95.4	85.3
March	83.9	77.6	112.9	98.9	95.9	88.3	92.0	69.0	72.2	94.7	85.2
April	83.9	78.7	114.9	99.9	96.7	88.7	91.8	69.9	72.4	90.3	85.0
May	83.7	78.7	114.9	101.3	97.2	88.4	86.9	69.3	72.7	80.9	83.1

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Building materials—Continued					Chemicals and allied products					
	Paint and paint materials	Plumbing and heating	Structural steel	Other building materials	All building materials	Chemicals	Drugs and pharmaceuticals	Fertilizer materials	Mixed fertilizers	Oils and fats	All chemicals and allied products
<i>1937</i>											
June.....	83.6	78.7	114.9	101.1	96.9	88.7	85.2	68.5	72.8	76.6	82.5
July.....	83.9	78.7	114.9	101.0	96.7	89.5	85.3	69.6	74.2	74.4	83.0
August.....	84.1	78.8	114.9	101.0	96.3	88.0	85.2	69.4	75.4	69.7	81.7
September.....	84.6	80.6	114.9	100.8	96.2	87.9	85.3	68.1	75.5	64.9	80.9
October.....	84.2	80.6	114.9	100.2	95.4	87.7	85.3	69.1	75.6	62.7	80.6
November.....	81.5	79.6	114.9	98.7	93.7	87.4	83.4	69.0	75.2	58.9	79.7
December.....	80.2	79.6	114.9	96.9	92.5	87.4	80.4	68.8	75.1	56.1	79.1
<i>1938</i>											
January.....	80.1	79.6	114.9	95.8	91.8	87.4	79.3	69.2	74.2	57.4	79.1
February.....	79.2	79.6	114.9	95.3	91.1	87.3	79.2	69.5	73.2	55.5	78.7
March.....	82.2	78.9	114.9	94.8	91.5	87.1	79.0	69.1	72.3	53.8	78.2
April.....	81.4	77.2	114.9	94.8	91.2	86.8	79.0	68.3	71.2	49.2	77.2
May.....	80.9	77.2	114.9	94.1	90.4	86.4	77.6	66.3	71.0	47.6	76.4
June.....	80.1	77.2	113.0	93.3	89.7	86.2	76.4	66.2	71.0	46.5	76.0
July.....	80.5	79.5	107.3	91.2	89.2	86.4	80.1	65.4	73.2	49.3	76.9
August.....	80.5	79.2	107.3	91.3	89.4	86.1	80.2	65.5	73.0	43.2	76.7
September.....	80.4	78.5	107.3	91.3	89.5	86.1	80.2	65.4	73.0	47.4	76.5
October.....	81.1	78.5	107.3	91.7	89.8	85.7	80.2	66.2	73.1	47.2	76.4
November.....	80.9	78.7	107.3	89.7	89.2	85.6	78.3	66.5	72.9	46.3	76.1
December.....	81.0	78.7	107.3	89.7	89.4	85.4	78.2	67.3	73.4	46.2	76.1
<i>1939</i>											
January.....	81.0	78.7	107.3	89.6	89.5	85.1	77.9	68.2	73.7	46.3	76.1
February.....	80.5	79.2	107.3	89.3	89.6	84.9	77.8	67.7	73.4	45.9	75.8
March.....	81.5	79.3	107.3	89.8	89.8	84.8	77.7	68.0	73.3	47.3	76.0
April.....	81.3	79.3	107.3	89.7	89.6	84.6	77.4	68.1	72.9	45.9	75.6
May.....	81.6	79.3	107.3	89.6	89.5	84.4	77.4	68.4	72.7	46.6	75.6
June.....	82.4	79.3	107.3	89.5	89.5	84.2	77.4	66.5	72.7	46.2	75.2
July.....	82.2	79.3	107.3	89.6	89.7	83.9	77.2	65.3	72.8	43.2	74.5
August.....	82.1	79.3	107.3	89.5	89.6	83.8	77.1	65.5	73.1	40.6	74.2
September.....	84.7	79.3	107.3	90.3	90.9	84.5	78.4	67.2	72.4	54.2	76.6
October.....	85.7	79.3	107.3	91.9	92.8	85.2	79.7	68.6	72.5	57.2	77.6
November.....	84.9	79.3	107.3	92.9	93.0	85.2	79.7	69.8	72.6	54.7	77.4
December.....	85.5	79.3	107.3	92.7	93.0	85.3	80.3	70.9	73.9	53.1	77.7
<i>1940</i>											
January.....	87.2	79.3	107.3	93.2	93.4	85.3	81.3	71.3	73.9	52.4	77.7
February.....	86.8	79.1	107.3	92.9	93.2	85.3	81.3	71.0	74.2	51.0	77.5
March.....	87.2	81.0	107.3	92.7	93.3	85.1	81.4	70.6	73.9	47.8	77.0
April.....	86.7	80.9	107.3	92.3	92.5	85.0	81.8	70.7	73.8	46.8	76.8
May.....	86.0	80.6	107.3	92.2	92.5	85.1	82.0	70.8	73.0	46.1	76.7
June.....	85.2	80.5	107.3	93.0	92.4	85.1	82.2	67.4	72.8	45.1	76.1
July.....	84.6	80.5	107.3	93.6	92.5	84.9	95.9	67.3	72.8	43.0	77.0
August.....	84.2	80.5	107.3	93.4	93.3	84.8	96.2	68.0	74.2	39.1	76.7
September.....	84.1	80.5	107.3	93.5	95.6	84.8	96.0	68.1	74.2	39.9	76.8
October.....	84.8	80.5	107.3	93.8	97.8	85.0	95.8	68.1	74.2	39.8	76.9
November.....	85.7	80.5	107.3	94.2	98.9	85.1	95.9	69.9	74.2	42.3	77.5
December.....	85.4	80.5	107.3	94.5	99.3	85.4	96.2	70.0	74.3	42.4	77.7
<i>1941</i>											
January.....	86.7	80.5	107.3	94.9	99.6	85.6	96.5	70.7	75.2	46.2	78.6
February.....	86.6	82.2	107.3	94.9	99.3	85.7	96.9	70.4	73.8	46.8	78.5
March.....	87.4	82.8	107.3	95.2	99.5	85.9	97.2	70.4	73.7	55.7	79.8
April.....	88.7	83.0	107.3	95.9	100.1	86.4	97.5	71.0	73.2	69.3	81.8
May.....	89.3	83.0	107.3	96.3	100.4	86.8	98.7	71.1	73.2	80.6	83.6
June.....	90.3	83.1	107.3	96.9	101.0	87.2	99.9	69.9	73.8	80.6	83.8

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Housefurnishing goods				Miscellaneous					All commodities
	Furnishings	Furniture	All housefurnishing goods	Auto tires and tubes	Cattle feed	Paper and pulp	Rubber crude	Other miscellaneous	All miscellaneous	
1913.....	47.9	70.7	56.3	207.2	82.2	59.4	170.2	64.4	93.1	69.8
1914.....	48.7	70.6	56.8	173.1	87.6	58.2	135.2	64.5	89.9	68.1
1915.....	47.1	70.9	56.0	155.1	89.1	56.7	135.4	64.3	86.9	69.5
1916.....	54.8	72.8	61.4	160.4	95.5	89.0	150.0	68.5	100.6	85.5
1917.....	70.3	81.7	74.2	198.0	140.2	112.7	149.2	78.6	122.1	117.5
1918.....	94.5	93.3	93.3	229.2	146.2	106.7	124.4	107.6	134.4	131.3
1919.....	101.4	114.7	105.9	209.2	185.7	115.1	100.7	120.5	139.1	138.6
1920.....	128.5	165.6	141.8	232.5	184.3	181.8	72.6	150.2	167.5	154.4
1921.....	103.3	129.9	113.0	179.0	89.2	107.6	34.4	107.5	109.2	97.6
1922.....	97.0	114.6	103.5	115.4	107.3	91.6	36.0	100.4	92.8	96.7
1923.....	104.8	116.7	108.9	109.5	118.5	102.8	61.3	102.0	99.7	100.6
1924.....	103.4	107.9	104.9	92.6	110.2	100.7	54.3	100.8	93.6	98.1
1925.....	102.2	104.6	103.1	98.6	112.7	105.2	149.9	99.6	109.0	103.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	97.4	97.7	97.5	74.9	117.8	93.8	77.9	98.8	91.0	95.4
1928.....	93.7	96.7	95.1	63.4	138.1	91.4	46.4	96.9	85.4	96.7
1929.....	93.6	95.0	94.3	54.5	121.6	88.9	42.3	98.4	82.6	95.3
1930.....	91.4	94.0	92.7	51.3	99.7	86.1	24.5	95.5	77.7	86.4
1931.....	82.2	88.0	84.9	46.0	62.7	81.4	12.8	88.0	69.8	73.0
1932.....	75.4	75.0	75.1	41.1	46.0	75.5	7.3	83.7	64.4	64.8
1933.....	76.6	75.1	75.8	42.1	57.9	76.6	12.2	76.2	62.5	65.9
1934.....	84.1	79.0	81.5	44.9	89.4	82.7	26.5	82.1	69.7	74.9
1935.....	84.2	77.0	80.6	45.7	88.3	80.0	25.4	80.0	68.3	80.0
1936.....	85.3	78.0	81.7	47.2	94.4	80.7	34.2	81.1	70.5	80.8
1937.....	93.4	85.9	89.7	55.8	110.5	91.7	40.5	84.7	77.8	86.3
1938.....	90.8	82.8	86.8	57.7	76.9	85.0	30.5	81.5	73.3	78.6
1939.....	91.1	81.3	86.3	59.5	83.3	82.4	37.2	82.6	74.8	77.1
1940.....	94.7	81.8	88.5	57.8	87.8	91.7	41.5	84.1	77.3	78.6
1935										
January.....	84.3	78.2	81.2	47.5	116.2	81.5	26.5	80.4	70.7	78.8
February.....	84.1	77.2	80.7	47.5	109.0	80.9	26.2	80.1	70.1	79.5
March.....	84.1	77.3	80.7	46.6	102.2	80.6	23.5	80.1	69.2	79.4
April.....	84.2	77.1	80.7	46.3	104.9	80.4	23.7	79.0	68.7	80.1
May.....	84.1	77.1	80.6	46.0	107.0	80.0	24.9	79.4	68.7	80.2
June.....	83.9	77.1	80.5	46.0	92.2	79.7	26.0	80.1	68.4	79.8
July.....	84.0	76.8	80.4	45.0	78.6	79.7	25.0	80.1	67.7	79.4
August.....	84.0	77.0	80.5	45.0	71.3	79.7	24.5	80.0	67.3	80.5
September.....	84.0	76.9	80.5	45.0	67.9	79.7	24.0	80.0	67.1	80.7
October.....	84.2	76.9	80.6	45.0	71.6	79.7	26.0	80.2	67.5	80.5
November.....	84.7	77.1	81.0	45.0	69.1	79.4	27.1	80.2	67.4	80.6
December.....	84.7	77.1	81.0	45.0	70.8	79.2	27.2	80.2	67.5	80.9
1936										
January.....	84.8	77.9	81.4	45.0	68.6	79.8	29.8	80.4	67.8	80.6
February.....	85.0	77.9	81.5	45.0	68.1	79.9	32.0	80.6	68.1	80.6
March.....	84.9	77.9	81.4	45.0	67.9	80.3	32.9	80.6	68.3	79.6
April.....	85.0	78.0	81.5	45.0	74.0	80.5	33.0	80.6	68.6	79.7
May.....	85.0	77.9	81.5	47.5	71.2	80.5	32.3	80.7	69.2	78.6
June.....	85.2	77.5	81.4	47.5	80.7	80.6	33.0	80.8	69.7	79.2
July.....	85.1	77.2	81.2	47.5	107.9	80.6	34.3	80.8	71.0	80.5
August.....	85.2	77.6	81.4	47.5	114.2	80.6	33.7	81.3	71.5	81.6
September.....	85.4	78.0	81.7	47.5	107.5	80.7	34.2	81.5	71.3	81.6
October.....	85.6	78.3	82.0	47.5	111.8	80.8	34.4	81.5	71.5	81.5
November.....	85.7	78.8	82.3	50.1	126.0	81.5	37.1	81.7	73.4	82.4
December.....	86.9	79.4	83.2	50.1	130.7	82.9	41.9	82.2	74.5	84.2
1937										
January.....	89.0	84.0	86.5	51.8	135.4	84.8	44.3	83.1	76.2	85.9
February.....	91.2	84.5	87.9	53.1	129.4	87.5	44.3	84.2	77.3	86.3
March.....	91.7	85.0	88.4	55.0	135.0	90.2	50.9	84.8	79.5	87.8
April.....	92.1	85.8	89.0	56.4	146.8	93.9	49.3	85.3	81.1	88.0
May.....	92.5	86.1	89.3	56.4	139.9	94.6	44.6	85.5	80.5	87.4

TABLE 3.—Index numbers of wholesale prices by groups and subgroups of commodities, by years 1913-40, and by months January 1935 to June 1941—Con.

Year and month	Housefurnishing goods			Miscellaneous					All commodities	
	Furnishings	Furniture	All housefurnishing goods	Auto tires and tubes	Cattle feed	Paper and pulp	Rubber crude	Other miscellaneous		All miscellaneous
1937										
June.....	92.5	86.6	89.5	56.4	116.9	95.0	41.0	85.8	79.4	87.2
July.....	92.6	86.8	89.7	56.4	116.5	94.2	39.6	85.7	79.0	87.9
August.....	95.0	87.1	91.1	56.4	82.9	94.1	38.2	85.4	77.3	87.5
September.....	94.9	87.1	91.1	56.4	81.2	93.4	38.4	85.1	77.0	87.4
October.....	94.9	87.1	91.0	56.4	83.6	92.4	33.6	84.6	76.2	85.4
November.....	94.8	86.0	90.4	57.4	83.3	90.4	30.6	83.5	75.4	83.3
December.....	93.5	85.9	89.7	57.4	81.7	89.8	31.2	82.7	75.0	81.7
1938										
January.....	92.8	83.7	88.3	57.4	91.6	90.0	30.5	82.4	75.2	80.9
February.....	92.2	83.7	88.0	57.4	86.7	89.7	30.2	82.2	74.8	79.8
March.....	91.6	83.7	87.7	57.4	85.1	88.8	28.4	82.1	74.4	79.7
April.....	90.9	83.6	87.3	57.4	79.0	87.5	24.5	81.8	73.4	78.7
May.....	90.8	83.6	87.2	57.4	78.6	86.9	24.2	81.5	73.1	78.1
June.....	90.7	83.5	87.1	57.4	78.4	85.5	26.3	81.1	72.9	78.3
July.....	90.5	82.2	86.4	57.4	76.8	82.8	31.9	80.7	72.7	78.8
August.....	90.5	82.2	86.4	57.4	67.0	82.4	33.5	80.9	72.4	78.1
September.....	90.2	82.1	86.2	57.4	67.6	81.9	33.3	81.1	72.4	78.3
October.....	89.3	82.1	85.7	57.4	66.5	81.7	35.3	81.2	72.6	77.6
November.....	89.7	81.9	85.8	58.8	70.5	81.5	34.3	81.2	73.0	77.5
December.....	90.3	81.6	86.0	58.8	76.6	80.9	33.9	81.1	73.1	77.0
1939										
January.....	90.1	80.5	85.4	58.8	79.9	81.0	33.4	81.1	73.2	76.9
February.....	89.8	80.5	85.2	59.7	78.2	81.1	33.7	81.2	73.5	76.9
March.....	89.7	80.5	85.2	60.5	84.1	81.3	34.1	81.3	74.1	76.7
April.....	89.6	81.0	85.4	60.5	92.1	81.1	33.3	81.4	74.4	76.2
May.....	89.8	81.0	85.5	60.5	87.4	80.4	34.2	81.4	74.2	76.2
June.....	90.0	81.0	85.6	60.5	81.5	79.9	34.4	81.3	73.8	75.6
July.....	90.0	81.0	85.6	60.5	72.4	79.9	34.7	81.3	73.4	75.4
August.....	90.0	81.1	85.6	60.5	68.4	80.0	34.9	81.3	73.3	75.0
September.....	91.7	81.3	86.6	60.5	93.4	81.8	47.7	82.8	76.6	79.1
October.....	93.7	81.7	87.8	60.5	82.9	86.3	42.7	85.4	77.6	79.4
November.....	94.2	82.3	88.4	55.6	91.5	88.0	42.5	86.0	77.0	79.2
December.....	94.4	82.4	88.5	55.6	91.7	89.0	42.4	86.6	77.4	79.2
1940										
January.....	94.0	81.4	87.9	55.6	93.0	89.8	39.6	87.4	77.7	79.4
February.....	94.2	81.5	88.0	55.6	93.7	89.5	38.7	86.6	77.3	78.7
March.....	94.2	81.5	88.0	55.6	95.2	89.0	38.3	85.8	76.9	78.4
April.....	94.5	81.9	88.4	58.0	100.1	89.5	39.4	85.1	77.7	78.6
May.....	94.8	81.9	88.5	58.0	93.3	90.7	44.1	84.3	77.7	78.4
June.....	94.9	81.7	88.5	58.2	80.0	91.7	46.3	83.7	77.3	77.5
July.....	94.8	81.8	88.5	58.8	83.2	93.5	44.2	83.5	77.7	77.7
August.....	94.8	81.8	88.5	58.8	74.5	93.5	41.0	82.8	76.7	77.4
September.....	94.8	81.8	88.5	58.8	75.9	93.2	39.8	82.6	76.5	78.0
October.....	95.0	81.8	88.6	58.8	80.1	93.2	41.6	82.7	76.9	78.7
November.....	95.0	81.8	88.6	58.6	92.1	93.1	42.9	82.8	77.5	79.6
December.....	95.1	82.2	88.9	58.3	90.1	93.1	42.7	82.8	77.3	80.0
1941										
January.....	95.2	82.6	89.0	58.2	89.1	93.1	41.0	82.8	77.1	80.8
February.....	95.3	82.6	89.1	58.2	81.2	93.3	42.2	82.9	76.9	80.6
March.....	95.8	82.9	89.5	58.4	82.7	93.5	45.6	83.4	77.6	81.5
April.....	97.1	83.4	90.4	58.8	85.2	94.5	47.6	84.3	78.6	83.2
May.....	98.0	84.3	91.4	58.8	81.8	96.7	49.8	85.6	79.6	84.9
June.....	99.0	87.0	93.1	58.8	88.9	98.0	45.6	87.4	80.6	87.1

Weekly Index Numbers of Wholesale Prices

Since January 1932 the Bureau has constructed a weekly index number of wholesale prices. This series of index numbers is calculated for the 10 major commodity groups and for the 5 special groups of commodities. Table 4 shows the weekly indexes for each week from January 1939 through June 1941.

TABLE 4.—Index numbers of wholesale prices by groups of commodities, by weeks, January 1939 to June 1941

[1926=100]

Week ended—	All com- modities	Farm products	Foods	Hides and leather	Textile products	Fuel and lighting	Metals and metal products	Building materials
1939								
Jan. 7	77.0	67.6	72.6	93.9	65.3	73.8	94.6	90.0
14	76.8	67.3	71.3	94.1	65.3	73.7	94.6	89.7
21	76.6	66.9	71.3	93.8	65.4	73.6	94.5	89.1
28	76.7	67.3	71.2	93.3	65.6	73.4	94.5	89.4
Feb. 4	76.6	67.1	71.0	92.9	65.5	73.5	94.5	89.3
11	76.6	66.7	71.1	92.7	65.6	73.7	94.5	89.1
18	76.6	66.9	71.3	92.5	65.5	73.6	94.5	89.4
25	76.8	67.7	71.4	92.4	65.6	73.4	94.5	90.0
Mar. 4	76.7	67.2	71.5	92.3	65.9	73.3	94.5	89.6
11	77.0	68.0	71.4	92.5	66.0	73.6	94.5	90.2
18	76.7	67.1	70.7	92.6	66.1	73.7	94.4	90.2
25	76.6	66.7	70.8	92.3	66.1	73.6	94.4	89.9
Apr. 1	76.5	66.6	70.5	92.0	66.0	73.7	94.4	90.0
8	75.9	63.8	68.4	91.8	66.1	73.6	94.4	89.9
15	75.8	63.8	68.2	91.4	66.2	73.6	94.2	89.7
22	76.0	63.9	68.7	91.3	66.7	73.7	94.1	89.8
29	76.1	63.9	68.6	91.2	66.6	74.4	93.9	89.4
May 6	76.1	63.6	68.3	91.8	66.8	74.6	94.0	89.6
13	76.4	64.4	68.5	92.1	67.0	74.8	93.7	89.6
20	75.9	64.1	67.4	92.2	67.0	74.4	93.5	89.3
27	75.8	63.5	67.6	92.6	67.1	74.1	93.5	89.4
June 3	75.7	63.1	67.5	92.6	66.9	74.1	93.5	89.2
10	75.6	62.7	67.3	92.8	66.9	73.9	93.5	89.8
17	75.4	62.0	67.1	93.0	66.8	74.1	93.4	89.5
24	75.5	62.7	67.4	93.0	66.7	74.1	93.5	89.3
July 1	75.5	62.9	67.4	93.1	66.9	73.7	93.3	89.7
8	75.6	64.1	68.1	92.8	67.0	73.2	93.3	89.5
15	75.5	63.3	67.6	92.8	67.1	73.4	93.3	89.8
22	75.2	62.2	67.5	93.2	67.4	73.3	93.3	89.5
29	74.8	61.4	66.7	93.7	67.5	73.3	93.4	89.4
Aug. 5	75.1	62.5	67.2	93.7	67.4	73.4	93.4	90.1
12	74.8	61.4	66.7	93.5	67.2	73.5	93.5	90.1
19	74.6	60.4	66.2	92.8	67.4	73.6	93.5	89.5
26	74.8	61.1	66.7	92.6	67.4	73.2	93.5	89.7
Sept. 2	75.3	62.7	68.5	92.7	67.2	73.2	93.5	89.7
9	78.4	68.1	74.5	96.0	68.4	74.0	94.6	90.1
16	79.3	69.7	75.5	98.3	71.4	74.1	94.9	90.7
23	79.5	69.5	75.1	100.4	72.3	74.2	95.3	91.0
30	79.5	69.3	74.4	104.1	73.4	74.4	95.2	91.2
Oct. 7	79.0	66.8	72.9	105.2	73.8	74.8	95.1	91.8
14	78.9	66.7	72.7	105.0	74.2	74.4	95.3	92.5
21	79.4	67.5	73.2	105.4	74.8	74.6	96.3	92.5
28	79.2	67.2	72.3	105.5	75.2	74.6	96.3	93.0
Nov. 4	79.3	67.5	72.3	104.4	75.6	74.7	96.2	93.1
11	79.3	67.8	72.4	104.5	75.6	74.7	96.2	93.1
18	79.1	67.3	72.3	104.3	75.6	74.8	96.1	92.9
25	79.0	67.6	72.0	104.2	75.8	74.8	96.1	92.9
Dec. 2	78.8	67.1	71.1	103.9	76.0	74.4	96.2	93.0
9	79.0	67.4	71.3	104.0	76.6	74.1	96.1	92.7
16	78.7	66.8	71.1	104.2	76.7	73.7	96.1	93.4
23	79.3	67.8	72.1	104.4	77.8	73.5	96.1	93.6
30	79.4	68.5	71.9	104.1	78.6	73.4	96.1	93.1
1940								
Jan. 6	79.5	69.6	71.8	104.0	78.3	73.3	96.0	92.9
13	79.5	69.5	71.8	104.1	78.1	73.3	96.0	93.2
20	79.3	69.5	71.4	103.7	77.0	73.4	96.0	93.1
27	79.1	69.2	71.4	103.9	76.7	73.4	95.7	93.7

TABLE 4.—Index numbers of wholesale prices by groups of commodities, by weeks, January 1939 to June 1941—Continued

Week ended—	All com- modities	Farm products	Foods	Hides and leather	Textile products	Fuel and lighting	Metals and metal products	Building materials
<i>1940</i>								
Feb. 3	78.8	69.6	71.7	103.0	75.3	73.3	95.6	93.1
10	78.5	68.9	70.9	103.2	75.3	73.0	95.5	93.1
17	78.3	68.6	70.5	103.1	74.4	73.0	95.3	93.2
24	78.6	69.4	71.0	102.7	74.2	73.0	95.3	93.0
Mar. 2	78.4	68.8	70.5	102.8	73.6	72.8	95.5	93.3
9	78.3	68.5	69.9	102.4	73.3	72.8	95.5	93.3
16	78.2	68.0	70.4	102.5	73.0	72.6	95.5	93.2
23	77.9	67.5	69.9	102.1	72.7	72.6	95.4	93.3
30	77.9	68.1	69.8	102.0	72.5	72.3	95.5	93.1
Apr. 6	77.6	67.0	69.7	101.6	71.9	72.5	95.4	93.2
13	78.0	68.0	70.8	102.1	71.9	72.5	95.4	92.8
20	78.5	69.6	71.9	102.5	71.6	72.3	95.3	92.8
27	79.0	71.6	72.8	102.5	71.5	72.2	94.9	92.7
May 4	78.9	71.3	72.5	102.5	71.5	72.3	95.0	92.6
11	78.4	69.2	71.6	102.2	72.3	72.4	94.5	92.0
18	78.5	68.2	71.7	102.4	72.6	72.3	94.7	92.7
25	77.8	66.8	70.7	101.4	72.4	72.4	94.7	92.6
June 1	77.8	67.8	70.8	100.5	72.2	72.3	94.7	92.5
8	77.4	66.7	70.5	99.6	71.9	72.2	94.8	92.1
15	77.4	66.8	70.2	99.6	71.8	72.2	94.9	92.4
22	77.1	65.6	70.1	99.6	71.9	71.9	94.8	92.3
29	77.1	65.7	69.7	99.9	72.0	71.9	94.8	92.4
July 6	77.5	66.7	70.4	100.3	71.9	72.0	94.9	92.6
13	77.9	68.0	71.0	99.9	72.0	71.9	94.9	92.7
20	77.6	67.3	70.4	99.9	71.9	71.8	94.9	92.8
27	77.3	66.9	69.6	99.0	71.8	71.8	94.9	92.7
Aug. 3	77.0	65.2	69.1	98.1	71.8	71.7	94.9	92.8
10	76.9	65.2	69.3	97.9	71.8	71.6	94.9	92.8
17	77.2	65.3	70.1	97.7	71.7	71.7	94.9	92.8
24	77.2	65.6	70.0	97.0	71.7	71.7	94.9	93.2
31	77.7	66.7	71.4	97.1	71.7	71.7	95.0	93.6
Sept. 7	78.0	67.6	71.6	97.8	71.8	71.8	95.0	94.5
14	77.9	66.8	71.3	98.6	71.9	71.8	95.3	95.0
21	77.7	65.7	71.1	99.0	72.0	71.9	95.3	95.2
28	77.7	65.7	70.8	99.3	72.1	71.8	95.7	95.8
Oct. 5	77.8	65.5	70.7	99.9	72.5	72.3	95.8	96.5
12	78.1	66.1	71.0	100.3	72.6	72.3	96.4	97.5
19	78.4	66.7	71.0	100.7	73.5	72.3	97.4	97.3
26	78.6	67.0	70.8	101.9	73.6	72.2	97.4	97.6
Nov. 2	78.5	66.5	70.8	102.3	73.7	72.2	97.4	98.1
9	78.8	67.2	71.7	102.4	73.9	72.5	97.4	98.3
16	79.3	68.4	72.6	103.0	74.0	72.6	97.5	98.3
23	79.5	68.8	72.8	103.1	74.2	72.4	97.4	98.3
30	79.7	69.1	73.3	103.1	74.2	72.8	97.6	98.3
Dec. 7	79.8	69.8	73.9	103.0	74.3	72.8	97.5	98.1
14	79.7	68.8	73.5	102.6	74.4	72.5	97.6	98.2
21	79.7	69.1	73.4	102.7	74.2	72.6	97.6	99.2
28	79.9	69.9	73.1	102.7	74.2	72.9	97.8	99.6
<i>1941</i>								
Jan. 4	80.2	71.2	73.2	102.5	74.3	72.6	97.8	99.4
11	80.2	71.0	73.0	102.8	74.2	72.6	97.8	99.6
18	80.6	71.4	73.7	102.9	74.6	72.6	97.8	99.7
25	80.8	72.6	74.1	102.6	74.6	72.6	97.8	99.5
Feb. 1	80.6	71.7	73.7	102.6	75.2	72.6	97.8	99.5
8	80.5	70.7	73.2	102.2	75.4	72.9	97.8	99.4
15	80.5	70.5	73.3	101.9	75.6	72.7	97.9	99.4
22	80.4	70.2	73.2	101.9	75.6	72.7	97.9	99.3
Mar. 1	80.5	70.4	73.1	102.1	76.3	72.6	98.0	99.5
8	80.6	70.5	73.4	102.5	76.6	72.6	97.9	99.5
15	80.9	70.9	74.3	102.8	77.2	72.6	97.8	99.4
22	81.6	72.3	75.6	103.3	78.2	72.5	97.8	99.5
29	82.0	73.2	76.4	103.5	79.2	72.6	97.9	99.7
Apr. 5	82.2	72.7	76.7	103.9	80.1	73.2	97.8	99.8
12	82.9	74.9	77.5	103.9	80.4	73.4	97.8	99.9
19	83.0	75.0	77.8	104.3	80.5	73.3	97.8	100.0
26	83.0	74.3	78.1	104.7	80.7	73.5	97.9	100.1
May 3	83.2	74.4	78.0	105.0	80.9	74.2	97.9	100.3
10	84.0	75.1	79.0	105.3	81.4	74.9	97.9	100.3
17	84.6	76.3	79.7	106.1	82.4	75.6	98.1	100.2
24	85.0	77.3	79.5	106.9	82.9	76.2	98.2	100.5
31	85.2	77.3	79.2	107.8	83.2	77.7	98.2	100.5
June 7	85.9	79.6	81.5	107.6	83.2	78.3	98.3	100.5
14	86.7	81.1	82.6	108.4	83.8	78.7	98.4	100.9
21	87.2	83.0	83.7	108.2	84.5	79.0	98.3	101.1
28	87.7	84.2	84.3	108.5	84.7	78.7	98.4	101.1

TABLE 4.—Index numbers of wholesale prices by groups of commodities, by weeks, January 1939 to June 1941—Continued

Week ended—	Chemicals and drugs	House-furnishing goods	Miscellaneous	Raw materials	Semi-manufactured articles	Finished products	All other than farm products	All other than farm products and foods
<i>1939</i>								
Jan. 7	76.3	87.5	73.1	71.1	75.0	80.5	79.1	80.6
14	76.4	87.2	73.1	70.8	75.0	80.3	78.9	80.5
21	76.3	87.2	73.0	70.4	74.8	80.3	78.8	80.4
28	76.1	87.2	73.0	70.7	74.7	80.2	78.8	80.4
Feb. 4	76.2	87.2	72.9	70.4	74.7	80.2	78.7	80.4
11	76.1	86.7	72.8	70.3	74.6	80.2	78.7	80.4
18	76.0	86.6	72.9	70.4	74.4	80.3	78.8	80.4
25	76.0	86.6	73.0	70.9	74.4	80.4	78.8	80.4
Mar. 4	76.2	86.6	73.2	70.7	74.5	80.4	78.9	80.4
11	76.3	86.6	73.4	71.2	74.5	80.5	79.0	80.6
18	76.2	86.6	73.9	70.6	74.5	80.3	78.8	80.7
25	76.0	86.5	73.9	70.3	74.7	80.3	78.8	80.6
Apr. 1	76.0	86.5	73.9	70.2	74.6	80.3	78.8	80.7
8	75.9	86.5	73.9	68.3	74.5	80.2	78.6	80.6
15	75.9	86.5	74.0	68.0	74.4	80.2	78.5	80.5
22	75.8	86.5	74.2	68.3	74.4	80.4	78.7	80.7
29	75.8	86.6	74.7	68.6	74.1	80.4	78.8	80.8
May 6	75.7	86.8	74.3	68.6	74.4	80.4	78.9	80.9
13	75.7	86.8	74.3	69.4	74.3	80.4	79.0	81.0
20	75.7	86.9	73.7	69.0	74.0	79.9	78.5	80.7
27	75.7	86.9	73.7	68.5	74.1	79.9	78.5	80.7
June 3	75.8	86.9	73.8	68.2	74.1	79.9	78.5	80.6
10	75.6	86.9	73.6	67.9	74.2	79.8	78.4	80.6
17	75.5	86.9	73.6	67.4	74.3	79.8	78.4	80.6
24	75.0	86.9	73.7	67.8	74.2	79.8	78.4	80.6
July 1	74.9	87.0	73.6	67.7	74.1	79.8	78.3	80.5
8	74.7	87.0	73.3	68.4	74.2	79.6	78.1	80.3
15	74.7	87.0	73.3	68.0	74.2	79.6	78.1	80.4
22	74.6	87.0	73.3	67.4	74.2	79.4	78.0	80.4
29	74.6	87.0	72.9	66.9	74.5	79.1	77.8	80.4
Aug. 5	74.5	87.0	73.0	67.6	74.5	79.2	77.9	80.5
12	74.3	87.0	73.0	66.8	74.4	79.1	77.8	80.5
19	74.2	87.0	73.0	66.2	74.3	79.0	77.7	80.4
26	74.2	87.0	73.1	66.2	74.4	79.3	77.8	80.4
Sept. 2	74.4	87.0	73.2	67.1	74.6	79.7	78.1	80.4
9	75.9	87.0	76.1	71.8	79.7	81.9	80.7	81.7
16	77.1	87.1	76.1	73.0	82.0	82.3	81.4	82.4
23	77.9	88.8	76.6	73.0	83.3	82.5	81.7	83.0
30	78.5	89.1	76.7	73.1	83.7	82.4	81.8	83.3
Oct. 7	77.9	89.1	77.1	71.7	83.5	82.3	81.7	83.7
14	77.6	89.2	77.0	71.6	83.6	82.2	81.6	83.7
21	78.0	89.2	77.2	72.2	83.6	82.8	82.1	84.1
28	77.9	89.3	77.4	72.1	82.9	82.5	81.9	84.2
Nov. 4	77.7	89.6	77.9	72.3	81.9	82.6	81.9	84.4
11	77.9	89.7	78.2	72.5	82.1	82.7	81.9	84.4
18	77.8	89.7	78.2	72.2	82.0	82.5	81.7	84.4
25	77.4	90.0	78.2	72.3	81.9	82.3	81.6	84.4
Dec. 2	77.5	90.0	78.4	72.0	81.6	82.1	81.4	84.4
9	77.6	90.0	78.4	72.8	81.5	82.0	81.5	84.4
16	77.6	90.0	76.9	72.5	81.7	81.8	81.4	84.1
23	78.0	90.0	77.4	73.3	82.1	82.2	81.8	84.3
30	78.1	90.1	77.7	73.6	83.5	82.0	81.8	84.4
<i>1940</i>								
Jan. 6	77.8	89.8	77.5	74.1	81.9	82.1	81.7	84.2
13	77.7	89.9	77.7	74.2	81.9	82.1	81.7	84.3
20	77.7	89.9	77.5	73.9	81.9	81.9	81.4	84.1
27	77.6	89.9	77.4	73.3	81.2	81.9	81.3	84.0
Feb. 3	77.5	89.7	77.1	73.2	80.3	81.7	80.9	83.6
10	77.4	89.8	77.1	72.7	80.1	81.4	80.6	83.5
17	77.5	89.8	77.2	72.4	79.6	81.4	80.5	83.3
24	77.4	89.7	77.2	72.9	79.6	81.5	80.6	83.3
Mar. 2	77.4	89.7	76.9	72.4	79.8	81.4	80.5	83.2
9	77.1	89.8	76.8	72.2	79.7	81.4	80.4	83.1
16	77.0	89.8	76.9	71.9	79.6	81.4	80.5	83.0
23	76.9	89.7	76.5	71.5	79.4	81.2	80.2	82.9
30	76.7	89.7	76.6	71.8	79.5	81.0	80.1	82.8

TABLE 4.—Index numbers of wholesale prices by groups of commodities, by weeks, January 1939 to June 1941—Continued

Week ended—	Chemicals and drugs	House-furnishing goods	Miscellaneous	Raw materials	Semi-manufactured articles	Finished products	All other than farm products	All other than farm products and foods
<i>1940</i>								
Apr. 6	76.5	89.6	76.6	71.1	79.1	80.9	80.0	82.7
13	76.6	89.9	76.6	72.0	79.2	81.2	80.3	82.7
20	76.9	89.9	76.8	72.9	79.5	81.5	80.5	82.6
27	77.0	89.9	76.9	73.9	79.5	81.7	80.6	82.5
May 4	76.8	89.9	76.9	73.7	79.5	81.6	80.5	82.6
11	76.8	89.9	76.8	72.5	78.2	81.5	80.4	82.5
18	76.8	89.9	78.2	72.2	78.6	81.8	80.8	82.9
25	76.6	89.9	77.4	71.0	78.1	81.3	80.2	82.7
June 1	76.6	89.9	76.9	71.4	78.0	81.1	80.0	82.5
8	76.4	89.9	77.0	70.7	77.7	80.9	79.8	82.4
15	76.4	89.9	77.2	70.9	77.8	80.7	79.7	82.4
22	76.3	89.9	77.2	70.2	77.9	80.6	79.7	82.4
29	76.0	89.9	76.9	70.2	77.8	80.6	79.6	82.3
July 6	77.1	90.0	77.0	70.7	78.0	80.9	79.9	82.4
13	77.0	90.0	77.2	71.4	77.8	81.2	80.1	82.4
20	76.9	90.0	77.3	70.8	77.8	81.1	79.9	82.4
27	76.8	90.0	77.7	70.0	77.5	81.0	79.8	82.4
Aug. 3	76.8	90.0	77.4	69.4	77.3	80.8	79.6	82.3
10	76.7	90.0	76.7	69.4	77.2	80.8	79.5	82.2
17	76.5	90.0	76.4	69.4	76.7	81.3	79.8	82.1
24	76.4	90.0	76.4	69.4	76.5	81.2	79.7	82.1
31	76.5	90.0	76.2	70.2	76.8	81.7	80.1	82.2
Sept. 7	76.8	90.0	76.4	70.9	76.8	81.8	80.3	82.3
14	76.8	90.0	76.3	70.5	77.4	81.8	80.3	82.5
21	76.8	90.0	76.3	70.1	77.5	81.7	80.4	82.5
28	76.7	90.0	76.1	70.0	78.3	81.6	80.4	82.6
Oct. 5	76.8	90.1	76.4	70.4	78.6	81.6	80.5	82.9
12	76.8	90.0	76.4	70.8	78.8	81.8	80.7	83.1
19	76.9	90.0	76.8	71.3	79.4	82.1	81.0	83.5
26	77.0	90.0	77.0	71.5	79.7	82.1	81.1	83.7
Nov. 2	77.1	90.1	76.9	71.2	80.0	82.0	81.1	83.7
9	77.2	90.1	77.1	71.6	80.2	82.4	81.4	83.9
16	77.4	90.1	77.6	72.5	80.4	82.8	81.8	84.1
23	77.5	90.2	77.5	72.7	80.5	82.9	81.8	84.3
30	77.7	90.2	77.4	72.9	80.6	83.1	82.0	84.5
Dec. 7	77.6	90.2	77.4	73.4	80.5	83.1	82.1	84.4
14	77.6	90.2	77.2	72.7	80.7	83.2	82.1	84.4
21	77.7	90.2	77.1	72.9	80.7	83.1	82.0	84.4
28	77.8	90.2	77.1	73.5	80.8	83.2	82.1	84.5
<i>1941</i>								
Jan. 4	78.0	90.2	77.1	74.2	80.7	83.2	82.1	84.4
11	78.2	90.4	77.1	74.1	80.8	83.4	82.3	84.4
18	78.6	90.4	76.9	74.3	81.1	83.8	82.6	84.5
25	78.8	90.5	76.8	74.9	81.1	83.9	82.7	84.4
Feb. 1	78.8	90.4	76.8	74.4	81.3	83.8	82.6	84.5
8	78.6	90.5	76.8	73.8	81.2	83.8	82.6	84.6
15	78.7	90.2	76.7	73.8	81.2	83.8	82.7	84.6
22	78.5	90.2	76.7	73.7	81.4	83.7	82.6	84.5
Mar. 1	78.6	90.7	76.7	73.9	82.0	83.7	82.7	84.7
8	78.7	90.8	76.8	74.1	82.2	83.8	82.8	84.8
15	79.2	90.8	77.0	74.5	82.7	84.0	83.1	84.9
22	80.0	90.9	77.5	75.6	83.6	84.5	83.7	85.1
29	80.6	91.2	77.8	76.3	84.4	84.8	84.0	85.4
Apr. 5	80.9	91.5	78.0	76.2	84.6	85.1	84.4	85.8
12	81.7	91.5	78.1	77.4	84.9	85.6	84.7	85.9
19	82.2	91.6	78.4	77.6	85.0	85.7	84.8	86.0
26	82.6	91.6	78.4	77.1	85.2	85.8	85.0	86.1
May 3	82.8	91.9	78.5	77.5	85.1	85.9	85.2	86.4
10	83.1	92.3	79.0	78.4	85.8	86.7	85.9	86.9
17	83.7	92.3	79.4	79.3	86.4	87.2	86.5	87.3
24	84.2	92.5	79.7	79.9	86.5	87.5	86.7	87.7
31	83.9	92.7	79.7	80.4	86.7	87.6	87.0	88.2
June 7	83.6	93.3	79.7	81.9	86.9	88.0	87.3	88.4
14	83.7	93.7	80.2	82.9	87.3	88.7	87.9	88.8
21	83.8	93.7	80.3	84.1	87.6	89.0	88.2	89.0
28	84.3	93.8	80.9	84.9	88.0	89.3	88.5	89.1

Index Numbers of Specified Groups of Commodities

In order to show price trends of commodities at wholesale for special purposes the Bureau calculates weekly and monthly index numbers for the groups of raw materials, semimanufactured articles, manufactured products, all commodities other than farm products, and all commodities other than farm products and foods. For a list of the commodities now carried in the calculation of these special groups of commodities see pages 10, 11, and 12 of the December 1940 issue of "Wholesale Prices" (Serial No. R. 1251). Table 5 shows index numbers for these special groups of commodities by years from 1913 to 1941 and by months from January 1935 through June 1941.

TABLE 5.—Index numbers of wholesale prices of special groups of commodities, by years, 1913-41, and by months, January 1935 to December 1941

[1926=100]

Year and month	Raw materials	Semi-manufactured articles	Finished products	Nonagricultural commodities	All commodities other than farm products and foods	All commodities
1913.....	68.8	74.9	69.4	69.0	70.0	69.8
1914.....	67.6	70.0	67.8	66.8	66.4	68.1
1915.....	67.2	81.2	68.9	68.5	68.0	69.5
1916.....	82.6	118.3	82.3	85.3	88.3	85.5
1917.....	122.6	150.4	109.2	113.1	114.2	117.5
1918.....	135.8	153.8	124.7	125.1	124.6	131.3
1919.....	145.9	157.9	130.6	131.6	128.8	138.6
1920.....	151.8	198.2	149.8	154.8	161.3	154.4
1921.....	88.3	96.1	103.3	100.1	104.9	97.6
1922.....	96.0	98.9	96.5	97.3	102.4	96.7
1923.....	98.5	118.6	99.2	100.9	104.3	100.6
1924.....	97.6	108.7	96.3	97.1	99.7	98.1
1925.....	106.7	105.3	100.6	101.4	102.6	103.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	96.5	94.3	95.0	94.6	94.0	95.4
1928.....	99.1	94.5	95.9	94.8	92.9	96.7
1929.....	97.5	93.9	94.5	93.3	91.6	95.3
1930.....	84.3	81.8	88.0	85.9	85.2	86.4
1931.....	65.6	69.0	77.0	74.6	75.0	73.0
1932.....	55.1	69.3	70.3	68.3	70.2	64.8
1933.....	56.5	65.4	70.5	69.0	71.2	65.9
1934.....	68.6	72.8	73.2	76.9	78.4	74.9
1935.....	77.1	73.6	82.2	80.2	77.9	80.0
1936.....	79.9	75.9	82.0	80.7	79.6	80.8
1937.....	84.8	85.3	87.2	86.2	85.3	86.3
1938.....	72.0	75.4	82.2	80.6	81.7	73.6
1939.....	70.2	77.0	80.4	79.5	81.3	77.1
1940.....	71.9	79.1	81.6	80.8	83.0	78.6
1941.....	83.5	86.9	89.1	88.3	89.0	87.3
<i>1935</i>						
January.....	76.6	71.2	80.8	78.9	77.7	78.8
February.....	77.4	71.7	81.5	79.4	77.4	79.5
March.....	76.6	71.8	81.7	79.5	77.3	79.4
April.....	77.5	72.3	82.3	79.9	77.2	80.1
May.....	77.6	73.5	82.4	80.0	77.6	80.2
June.....	76.4	73.9	82.2	80.0	78.0	79.8
July.....	75.8	72.8	82.0	79.8	78.0	79.4
August.....	77.1	73.2	83.0	80.6	77.9	80.5
September.....	77.3	74.4	83.1	80.8	77.8	80.7
October.....	77.1	76.3	82.7	80.9	78.3	80.5
November.....	77.2	76.2	82.7	81.1	78.8	80.6
December.....	77.7	75.2	83.1	81.3	78.7	80.9
<i>1936</i>						
January.....	78.1	74.8	82.4	80.9	78.8	80.6
February.....	79.1	74.6	82.2	80.7	79.0	80.6
March.....	77.4	74.4	81.3	80.2	78.9	79.6
April.....	77.0	74.5	81.6	80.1	78.9	79.7
May.....	75.8	74.1	80.5	79.2	78.8	78.6
June.....	77.6	73.9	80.7	79.4	78.8	79.2
July.....	79.8	75.2	81.6	80.3	79.5	80.5
August.....	81.5	75.6	82.4	80.9	79.7	81.6
September.....	81.8	75.9	82.3	80.9	79.6	81.6

TABLE 5.—Index numbers of wholesale prices of special groups of commodities, by years, 1913-41, and by months, January 1935 to December 1941—Continued

Year and month	Raw materials	Semi-manufactured articles	Finished products	Nonagricultural commodities	All commodities other than farm products and foods	All commodities
<i>1936</i>						
October.....	82.1	76.2	82.0	80.9	80.1	81.5
November.....	83.1	78.6	82.6	81.7	81.0	82.4
December.....	85.6	82.3	83.8	83.1	82.2	84.2
<i>1937</i>						
January.....	88.1	85.4	84.9	84.6	83.4	85.9
February.....	88.3	85.5	85.4	85.0	84.1	86.3
March.....	90.1	89.6	86.4	86.3	85.5	87.8
April.....	88.7	89.5	87.4	86.9	86.5	88.0
May.....	87.1	87.5	87.5	86.7	86.3	87.4
June.....	86.1	86.8	87.7	86.8	86.1	87.2
July.....	86.5	87.0	88.8	87.5	86.3	87.9
August.....	84.8	86.6	89.0	87.6	86.7	87.5
September.....	84.4	85.3	89.1	87.6	85.9	87.4
October.....	80.7	82.5	88.1	86.4	85.1	85.4
November.....	77.2	79.8	86.7	84.8	84.3	83.3
December.....	75.4	77.7	85.3	83.5	83.6	81.7
<i>1938</i>						
January.....	74.9	76.9	84.3	82.8	83.5	80.9
February.....	73.6	76.1	83.3	81.9	83.0	79.8
March.....	73.2	75.6	83.4	81.6	82.6	79.7
April.....	71.3	75.3	82.7	80.8	82.0	78.7
May.....	70.7	75.4	82.1	80.3	81.6	78.1
June.....	71.4	74.1	82.2	80.3	81.3	78.3
July.....	72.3	74.3	82.5	80.8	81.4	78.8
August.....	71.4	74.4	81.8	80.3	81.4	78.1
September.....	72.0	74.7	81.8	80.4	81.3	78.3
October.....	70.9	75.9	81.1	79.9	81.1	77.6
November.....	71.5	76.2	80.5	79.5	80.6	77.5
December.....	70.9	75.2	80.2	79.0	80.3	77.0
<i>1939</i>						
January.....	70.9	74.9	80.0	78.9	80.2	76.9
February.....	70.9	74.4	80.2	78.9	80.2	76.9
March.....	70.1	74.6	80.2	79.0	80.4	76.7
April.....	68.5	74.4	80.1	78.8	80.5	76.2
May.....	68.9	74.3	79.9	78.8	80.6	76.2
June.....	67.7	74.1	79.6	78.4	80.2	75.6
July.....	67.8	74.4	79.2	78.1	80.2	75.4
August.....	66.5	74.5	79.1	77.9	80.1	75.0
September.....	72.6	81.8	81.9	81.3	82.1	79.1
October.....	72.3	83.1	82.3	82.0	83.8	79.4
November.....	72.4	82.1	82.0	81.6	84.0	79.2
December.....	73.3	82.0	81.7	81.6	83.9	79.2
<i>1940</i>						
January.....	73.8	81.7	81.7	81.5	83.9	79.4
February.....	72.7	79.9	81.4	80.8	83.2	78.7
March.....	72.0	79.7	81.1	80.5	82.9	78.4
April.....	73.0	78.2	81.2	80.5	82.5	78.6
May.....	72.0	78.3	81.3	80.5	82.5	78.4
June.....	70.7	77.9	80.5	79.8	82.2	77.5
July.....	70.7	77.8	80.9	80.0	82.3	77.7
August.....	69.8	77.0	81.0	79.9	82.0	77.4
September.....	70.5	77.6	81.5	80.4	82.3	78.0
October.....	71.4	79.4	82.1	81.3	83.5	78.7
November.....	72.6	80.7	82.6	81.9	84.1	79.6
December.....	73.6	80.7	82.8	82.1	84.1	80.0
<i>1941</i>						
January.....	74.6	81.3	83.5	82.7	84.3	80.8
February.....	74.0	81.6	83.5	82.7	84.4	80.6
March.....	75.3	83.4	84.2	83.6	84.9	81.5
April.....	77.5	85.1	85.5	85.0	85.9	83.2
May.....	79.7	86.4	87.1	86.6	87.4	84.9
June.....	83.6	87.6	88.6	88.0	88.6	87.1
July.....	86.1	87.9	90.1	89.3	89.7	88.8
August.....	87.6	89.5	91.5	90.7	90.8	90.3
September.....	90.0	90.3	92.8	91.9	91.6	91.8
October.....	89.7	89.9	93.9	92.8	93.4	92.4
November.....	90.2	89.7	93.8	92.7	93.5	92.5
December.....	92.3	90.1	94.6	93.3	93.7	93.6

Daily Index of Basic Commodities

The outbreak of war in Europe in September 1939 created a demand for an official daily index number of spot market prices of basic commodities. On January 25, 1940, the Bureau began the issue of a daily index of spot market prices for 28 basic commodities. Most of the 28 commodities included are basic raw materials, many of them quoted on organized exchanges and on future markets. The selection of the items was made with a view to confining the index, as far as possible, to those commodities which were (1) basic, (2) freely traded in on open markets, (3) sensitive to changing conditions significant in those markets, (4) preferably free from dominant seasonal movements (except for meats and butter), and (5) sufficiently homogeneous or standardized so that uniform and representative price quotations could be obtained over a period of time. The index is a geometric mean of the individual price ratios and is unweighted. It is computed with the average of daily prices in August 1939 as the base (100 percent) in order to facilitate comparisons with prices prevailing in world markets just before the outbreak of the European War.

The following is a list of the 28 commodities currently included in the daily index and in each subgroup of commodities. Table 6 gives the combined index for the 28 commodities by months from January 1935 to December 1940, and by days from August 1939 through June 1941. The subgroup index numbers and individual commodity prices are available on request to the Bureau.

List of 28 Basic Commodities

Wheat, average, per bushel:

Number 2 Hard winter, carlot sales, Kansas City.

Number 2 Dark Northern spring, 13 percent protein, Minneapolis.

Flaxseed, Number 1, per bushel, Minneapolis.

Barley, good, malting, per bushel, Minneapolis.

Corn, Number 3 yellow, per bushel, Chicago.

Butter, extra, 92 score, per pound, Chicago.

Tallow, Packers' prime, per pound, Chicago.

Hogs, good to choice, 200-220 pounds, per 100 pounds, Chicago.

Steers, good, 900-1100 pounds, per 100 pounds, Chicago.

Lard, prime Western, per pound, New York.

Sugar, raw, 96°, duty paid, per pound, New York.

Coffee, Santos, Number 4, per pound, New York.

Cocoa beans, Accra, per pound, New York.

Shellac, T. N., per pound, New York.

Rubber, plantation, ribbed, s. s., per pound, New York.

Hides, cow, light native packers, per pound, Chicago.

Rosin, "H" grade, per 100 pounds, Savannah.

Cottonseed oil, prime summer bleachable, per pound, New York.

Print cloth, 38½ inches, 64 by 60, 5.35 yards to pound, per yard, New York.

Silk, raw, Japan, 13-15 denier, 78 seriplane, per pound, New York.

Wool top, spot market, per pound, New York.

Burlap, 10½ ounces, 40 inches, per yard, New York.

Steel scrap, heavy melting, per ton, Chicago.

Tin, Straits, pig, per pound, New York.

Copper, electrolytic, ingot, per pound, New York.

Lead, desilverized, pig, open market, per pound, New York.

Zinc, prime Western, pig, per pound, New York.

Steel scrap, heavy melting, per ton, Philadelphia.

Cotton, middling 15/16 staple, per pound, average 10 spot markets.

Import commodities.—Flaxseed, sugar, coffee, cocoa beans, shellac, rubber, hides, silk, wool, burlap, and tin.

Domestic commodities.—Wheat, barley, corn, butter, tallow, hogs, steers, lard, rosin, cottonseed oil, print cloth, steel scrap (Chicago), copper, lead, zinc, steel scrap (Philadelphia), and cotton.

Domestic agricultural commodities.—Barley, wheat, corn, hogs, steers, wool, and cotton.

Foodstuffs.—Wheat, barley, corn, butter, tallow, hogs, steers, lard, sugar, coffee, cocoa beans, and cottonseed oil.

Raw, industrial.—Flaxseed, shellac, rubber, hides, rosin, print cloth, silk, wool, burlap, steel scrap (Chicago), tin, copper, lead, zinc, steel scrap (Philadelphia), and cotton.

TABLE 6.—Index of 28 basic commodities spot market prices, by months, January 1935 to December 1940, and daily, Aug. 28, 1939, to June 30, 1941

Year and month	General index	Year and month	General index	Month and day	General index	Month and day	General index
<i>1935</i>		<i>1939</i>		<i>1939</i>		<i>1939</i>	
January	115.7	March	104.1	Sept. 26	126.4	Nov. 24	120.2
February	115.4	April	101.8	27	126.5	25	120.3
March	111.5	May	103.4	28	125.5	26	S
April	111.5	June	102.7	29	124.3	27	120.0
May	112.1	July	100.9	30	124.9	28	120.0
June	109.8	August	100.0	Oct. 1	S	29	120.0
July	108.8	September	122.2	2	124.0	30	120.5
August	111.5	October	123.0	3	123.4	Dec. 1	120.7
September	115.3	November	120.9	4	123.0	2	120.7
October	118.6	December	123.3	5	123.0	3	S
November	117.3			6	123.5	4	120.2
December	116.2			7	122.5	5	121.1
		<i>1940</i>		8	S	6	121.9
		January	121.8	9	122.3	7	122.1
		February	116.3	10	122.8	8	121.8
<i>1936</i>		March	114.3	11	123.0	9	122.0
January	117.2	April	114.9	12	H	10	S
February	117.6	May	113.6	13	123.0	11	121.5
March	116.3	June	110.5	14	122.8	12	122.0
April	115.4	July	108.5	15	S	13	123.4
May	111.5	August	106.4	16	123.0	14	123.6
June	113.3	September	109.3	17	123.8	15	123.9
July	121.5	October	112.1	18	124.2	16	124.5
August	128.0	November	116.6	19	123.9	17	S
September	129.9	December	117.6	20	123.2	18	125.2
October	130.0			21	123.2	19	125.5
November	136.6	<i>Month and day</i>		22	S	20	125.1
December	145.5	<i>1939</i>		23	122.8	21	124.8
<i>1937</i>				24	122.6	22	124.9
January	152.2			25	122.7	23	H
February	150.7	Aug. 28	100.1	26	122.6	24	S
March	157.2	29	100.5	27	122.4	25	H
April	153.6	30	100.2	28	122.3	26	125.1
May	146.5	31	100.4	29	S	27	124.5
June	141.4	Sept. 1	104.3	30	122.2	28	124.5
July	144.4	2	104.7	1	121.9	29	124.5
August	141.5	3	S	Nov. 1	121.4	30	H
September	138.2	4	H	2	121.3	31	S
October	125.4	5	114.2	3	121.0		
November	113.9	6	119.0	4	121.3		
December	110.5	7	119.8	5	S		
		8	120.1	6	121.2	<i>1940</i>	
<i>1938</i>		9	119.7	7	H	Jan. 1	H
January	112.0	10	S	8	120.6	2	124.1
February	109.3	11	120.8	9	120.5	3	124.2
March	107.4	12	121.3	10	120.8	4	124.1
April	102.7	13	123.3	11	H	5	123.8
May	99.5	14	123.6	12	S	6	123.8
June	98.4	15	124.6	13	121.1	7	S
July	105.6	16	124.3	14	120.7	8	123.3
August	103.8	17	S	15	120.4	9	123.0
September	103.6	18	125.3	16	120.2	10	122.4
October	105.1	19	124.6	17	119.9	11	122.3
November	104.9	20	125.7	18	120.0	12	122.1
December	103.6	21	125.9	19	S	13	122.1
		22	127.2	20	119.8	14	S
<i>1939</i>		23	127.1	21	119.9	15	122.6
January	103.9	24	S	22	120.0	16	122.1
February	103.5	25	126.6	23	H	17	122.3

TABLE 6.—Index of 28 basic commodities spot market prices, by months, January 1935 to December 1940, and daily, Aug. 23, 1939, to June 30, 1941—Continued

Month and day	General index	Month and day	General index	Month and day	General index	Month and day	General index
1940		1940		1940		1940	
Jan. 10	122.2	Apr. 5	112.2	June 21	111.5	Sept. 6	109.4
20	122.3	6	112.2	22	111.8	7	109.4
21	S	7	S	23	S	8	S
22	121.1	8	112.7	24	111.6	9	109.0
23	119.9	9	114.0	25	110.6	10	109.1
24	120.1	10	114.5	26	109.9	11	109.1
25	120.2	11	115.0	27	110.2	12	109.0
26	119.5	12	115.0	28	110.1	13	109.0
27	119.4	13	115.0	29	109.9	14	108.9
28	S	14	S	30	S	15	S
29	118.2	15	115.3	July 1	110.2	16	109.0
30	117.3	16	115.7	2	110.2	17	109.0
31	117.4	17	116.3	3	110.7	18	109.1
Feb. 1	117.4	18	117.4	4	H	19	108.8
2	117.3	19	117.0	5	110.8	20	109.0
3	117.4	20	117.1	6	110.7	21	108.9
4	S	21	S	7	S	22	S
5	117.4	22	116.4	8	110.6	23	109.4
6	117.2	23	116.4	9	110.0	24	109.5
7	116.3	24	116.2	10	109.6	25	110.2
8	116.4	25	115.9	11	109.4	26	110.1
9	116.5	26	116.0	12	109.1	27	110.1
10	116.4	27	115.9	13	109.0	28	110.4
11	S	28	S	14	S	29	S
12	H	29	116.0	15	108.7	30	110.3
13	115.7	30	115.5	16	108.3	Oct. 1	110.7
14	115.6	May 1	115.1	17	107.9	2	110.5
15	115.6	2	115.1	18	107.5	3	110.3
16	115.7	3	115.4	19	107.2	4	110.2
17	115.9	4	115.4	20	107.1	5	110.4
18	S	5	S	21	S	6	S
19	116.0	6	114.9	22	107.2	7	110.5
20	116.0	7	114.7	23	107.0	8	110.3
21	116.1	8	114.9	24	106.9	9	110.6
22	H	9	114.7	25	106.6	10	110.9
23	115.9	10	117.5	26	107.1	11	111.2
24	115.6	11	117.3	27	107.0	12	H
25	S	12	S	28	S	13	S
26	115.8	13	117.7	29	106.9	14	111.7
27	115.6	14	115.7	30	106.9	15	112.1
28	116.7	15	113.6	31	106.8	16	112.5
29	116.4	16	114.4	Aug. 1	106.9	17	112.8
1	116.2	17	113.9	2	106.8	18	113.0
2	116.3	18	112.8	3	106.7	19	112.9
3	S	19	S	4	S	20	S
4	116.3	20	113.2	5	106.8	21	112.9
5	116.4	21	111.2	6	106.6	22	113.0
6	116.3	22	111.2	7	106.5	23	113.5
7	116.4	23	110.5	8	106.2	24	113.5
8	116.2	24	110.8	9	105.9	25	113.3
9	116.3	25	110.9	10	105.7	26	113.0
10	S	26	S	11	S	27	S
11	116.3	27	111.1	12	105.9	28	113.2
12	116.2	28	110.0	13	105.5	29	113.3
13	115.8	29	110.3	14	105.7	30	113.3
14	115.4	30	H	15	105.6	31	113.6
15	114.9	June 1	110.0	16	105.5	Nov. 1	113.8
16	114.5	2	110.2	17	105.6	2	113.9
17	S	3	S	18	S	3	S
18	113.8	4	110.2	19	105.5	4	114.1
19	113.6	5	110.0	20	105.6	5	H
20	114.2	6	109.4	21	105.9	6	114.3
21	114.0	7	109.4	22	106.1	7	115.3
22	H	8	110.2	23	105.9	8	116.0
23	114.0	9	110.1	24	105.8	9	116.2
24	S	10	S	25	S	10	S
25	114.0	11	110.0	26	106.3	11	H
26	113.2	12	110.6	27	107.0	12	116.9
27	112.7	13	111.0	28	107.3	13	117.2
28	112.9	14	110.5	29	107.4	14	117.5
29	112.7	15	110.8	30	108.1	15	117.5
30	112.8	16	110.7	31	108.0	16	117.5
31	S	17	S	Sept. 1	S	17	S
Apr. 1	112.2	18	110.3	2	H	18	117.8
2	112.2	19	110.3	3	108.3	19	118.0
3	112.0	20	110.7	4	109.1	20	118.0
4	112.1	21	110.9	5	109.6	21	117.4
							H

TABLE 6.—Index of 23 basic commodities spot market prices, by months, January 1935 to December 1940, and daily, Aug. 28, 1939, to June 30, 1941—Continued

Month and day	General index	Month and day	General index	Month and day	General index	Month and day	General index
1940		1941		1941		1941	
Nov. 22	117.5	Jan. 14	120.6	Mar. 11	127.3	May. 6	141.0
23	117.5	15	121.3	12	128.1	7	141.5
24	S	16	121.1	13	128.5	8	141.7
25	117.7	17	120.9	14	129.1	9	142.4
26	117.4	18	120.8	15	129.5	10	142.7
27	117.5	19	S	16	S	11	S
28	117.2	20	121.0	17	129.7	12	142.2
29	117.1	21	120.8	18	131.1	13	143.2
30	117.0	22	120.8	19	132.1	14	143.9
Dec. 1	S	23	120.8	20	132.3	15	143.6
2	116.8	24	121.1	21	132.2	16	143.9
3	117.2	25	121.1	22	132.1	17	143.9
4	117.6	26	S	23	S	18	S
5	117.7	27	120.4	24	132.9	19	144.0
6	117.6	28	120.3	25	133.3	20	144.2
7	117.6	29	119.9	26	134.0	21	144.5
8	S	30	119.8	27	133.7	22	143.6
9	117.9	31	119.8	28	134.4	23	143.7
10	117.7	Feb. 1	119.8	29	135.1	24	143.6
11	117.7	2	S	30	S	25	S
12	117.7	3	119.7	31	135.0	26	143.3
13	117.2	4	119.2	Apr. 1	134.4	27	143.4
14	117.2	5	119.5	2	135.0	28	143.4
15	S	6	119.9	3	134.8	29	142.9
16	116.9	7	120.3	4	135.6	30	H
17	117.1	8	120.4	5	135.9	31	142.8
18	117.1	9	S	6	S	June 1	S
19	117.2	10	121.1	7	135.9	2	143.2
20	117.3	11	120.5	8	135.4	3	143.5
21	117.3	12	H	9	135.8	4	144.0
22	S	13	120.8	10	136.8	5	144.0
23	117.6	14	120.9	11	H	6	144.4
24	117.3	15	120.9	12	136.7	7	144.8
25	H	16	S	13	S	8	S
26	117.8	17	120.9	14	136.8	9	145.3
27	117.9	18	121.3	15	137.1	10	145.5
28	118.2	19	121.8	16	137.7	11	145.8
29	S	20	123.2	17	137.9	12	145.7
30	118.3	21	122.1	18	137.3	13	146.0
31	118.5	22	H	19	137.4	14	146.0
1941		23	S	20	S	15	S
Jan. 1	H	24	122.9	21	137.5	16	146.2
2	118.7	25	123.1	22	137.1	17	146.0
3	118.9	26	123.2	23	136.7	18	146.7
4	119.3	27	123.2	24	136.8	19	146.7
5	S	28	123.8	25	136.9	20	147.1
6	119.8	Mar. 1	123.7	26	137.0	21	147.3
7	119.9	2	S	27	S	22	S
8	120.7	3	123.9	28	136.9	23	148.2
9	120.9	4	124.2	29	136.9	24	148.1
10	121.3	5	124.4	30	137.2	25	148.2
11	121.1	6	124.9	May 1	137.7	26	149.1
12	S	7	125.6	2	138.1	27	149.5
13	120.4	8	125.7	3	139.1	28	148.7
		9	S	4	S	29	S
		10	126.9	5	139.6	30	146.3

Recent Revisions in Wholesale Price Series

For the past several years the Wholesale Price Division has been engaged in a series of studies looking toward an expansion and improvement of the wholesale price index numbers for all principal commodity groups covered in Bureau reports. Among the more important phases undertaken are a more detailed description of the items included in the price index and an enlargement of the commodity and industry coverage, methods of dealing with geographical variations in the price structure, the type and method of weighting and index computation, a more complete classification of the commodities and industries, and means of increasing the effectiveness of

the published data. Upon the completion of the revision for each industry or commodity a report is issued and the results incorporated in the general index with subsequent figures included in current publications on wholesale prices.

The first of the revised series was issued in August 1935 and covered wholesale prices of farm machinery. The results of the study were incorporated in the August 1935 Monthly Labor Review and in Serial No. R. 274. Subsequent figures have been issued in the current publications of the Bureau on wholesale prices.

The other groups and subgroups which have been affected by the expansion and improvement program together with reference to the first published information are:

Textile products.—Hosiery and underwear (formerly "knit goods," changes in underwear items). The survey was completed in late 1937 and was used in the calculation of the Bureau's general index of wholesale prices beginning with January 1938. The list of articles with specifications is given in the mimeographed publication (No. 5843) entitled "January 1938 Supplement of Commodity Specifications."

Miscellaneous.—Paper and pulp (changes in boxboard items) and other miscellaneous (changes in soap items). These surveys were completed in late 1937 and the results incorporated in the index in January 1938. The mimeographed publication referred to directly above carries the list of items with specifications.

The results of a survey of wholesale prices of portland cement delivered in 48 cities were completed in early 1939 and used in the calculation of the general indexes beginning with March 1939. The Bureau's mimeographed report No. 8330 gives details of the study.

In late 1939 the survey covering the improvement and expansion of the wholesale price series for rayon and silk items was completed and the results incorporated in the general index beginning with January 1940. The Bureau's mimeographed report No. 8812 gives details of this study.

The only complete major group of commodities for which a survey has been concluded is the chemical and allied products group. This study was completed early in 1940 and the results incorporated in the general index in March 1940. The Bureau's mimeographed report No. 9148 lists the commodities and gives specifications.

A new index of lumber prices at wholesale was computed for the period beginning with January 1935, as a result of a survey completed in the summer of 1940, and presented in the Bureau's mimeographed report No. 10507. The revised series of lumber prices were incorporated in the Bureau's general index beginning with October 1940.

The results of the survey covering wholesale price trends of carpets and rugs were incorporated in the Bureau's indexes of wholesale prices beginning with January 1941. The details of the survey are included in the Bureau's mimeographed report No. 11491.

Special Index Numbers and Price Series for the National Defense Commission

For use of the National Defense Commission and other agencies, in connection with the program for national defense, the Bureau is collecting market price data for an increasing number of commodities.

For certain of these commodities index numbers for specified groups of items have been calculated.

Strategic and critical materials.—On March 12, 1941, in mimeographed report No. 11049 the Bureau announced two series of special index numbers prepared for use in connection with the defense program. The first covers market prices for strategic materials and the second for critical materials. The commodities included in each of the groups are those announced on January 30, 1940, by the Army and Navy Munitions Board. Strategic materials as defined by the Board are "those essential to national defense, for the supply of which, in war, dependence must be placed in whole or in substantial part on sources outside the continental limits of the United States; and for which strict conservation and distribution control measures will be necessary." Critical materials are "those essential to national defense, the procurement problems of which in war would be less difficult than those of strategic materials either because they have a lesser degree of essentiality or are obtainable in more adequate quantities from domestic sources; and for which some degree of conservation and distribution control will be necessary." The mimeographed report gives the list of items and specifications for each, the method of calculation, and the two series of indexes beginning with January 1939.

In March 1941 the Bureau issued a mimeographed report No. 11130 "Machine Tool Prices January 1937–January 1941." The basis of the report was a survey conducted by the Bureau at the request of the National Defense Commission covering prices of eleven standard or nonspecialty types of machine tools. The report shows the various machine tools priced, the detailed specifications and the index numbers for each of the items from January 1937. Supplementary reports are issued near the middle of each month.

Waste and scrap materials.—The Bureau will shortly issue a report covering market prices for an extensive list of waste and scrap materials. The survey which is now in progress covers the more important industries as textiles (cotton, raw wool), rubber, paper, and metals (ferrous and nonferrous). Prices are being obtained from January 1939 and the indexes will be based on the month of August 1939 as 100 percent.

Prison Labor

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 Edition.

741

The Prison-Labor Problem ¹

The English system emphasizing nonproductive use of hard labor by convicts, treadmill and hand crank, as a corrective or punishment, did not take deep root in this country. Still, there was a great amount of physical punishment in colonial days, such as branding, whipping, stocks, pillories, and capital punishment. Convicts who were shipped into the Colonies from England were put to work on the farms. Hard labor was intended as a deterrent and to make physical punishment unnecessary. The labor of the prisoners of the State was commonly leased out, in the South, and sometimes subleased to contractors, farmers, road builders and others who profited by the arrangement. In the northern States contract labor was common. The system of hiring out prison labor, which went through many forms, has served to bridge the gap between labor as punishment and labor as a means of rehabilitating the prisoner.

Whatever the multifarious causes which finally land men in prison, prison administrators, with a problem of controlling this unrepresentative mass of men living under artificial conditions, found that the men could better be controlled and that the time passed more satisfactorily for all if they had work to do. However, the easy solution of either leasing out these men or having contractors work them on a contract or piece-price basis was to create many new problems which we still have with us. But these systems did provide work, which prevented the men from brooding and counteracted some of the evils of confinement. Such work established habits which might be useful to prisoners upon their release and taught them in many cases how to provide for and to take care of themselves when they returned to normal ways of living. Not least, it furnished the prison systems with funds rarely provided in sufficient amount by their legislatures.

In the early part of the nineteenth century when there was a perennial shortage of labor in the United States, the practice of hiring out prisoners "got by." While there was plenty of opposition in local areas from free workers, work opportunities were in general abundant and as prison-labor contractors were able to make goods cheaply and to keep prices down, that too was welcome. Industry was not yet organized on a national basis and prison-labor competition had not as yet any disastrous effects.

Still there were rumblings against this practice from the beginning. As early as 1823 the mechanics of New York City lodged a protest against the alleged menace of prison labor. By the middle of the century the protests of local groups of workers were being heard more frequently, and this became a serious issue with the rise of organized labor and the extension of the political franchise to workers. There has been a steady tendency to substitute for the contract system stricter

¹ From an article by Gustav Peck, member of Prison Industries Reorganization Board, written in 1936 and published in the *Monthly Labor Review* for November 1936.

control by the State and in this way to eliminate the gross abuse and exploitation of prison labor by lessees and contractors and to mitigate the competitive effects of prison-labor products.

Federal Legislation on Prison-Made Goods

After a protracted series of surveys begun by the Commissioner of Labor Statistics in 1886 and influenced by surveys and discussions in the several States, hearings were held by Congress between 1926 and 1929 which resulted in the passage of the Hawes-Cooper law. This law divested prison-made goods transported in interstate commerce of their interstate character and thereby permitted receiving States to legislate in regard to prison-made goods irrespective of place of origin. Half the States in the Union have now acted to prohibit the sale of prison-made goods on the open market.² In addition, the Federal Ashurst-Summers Act of 1935 was passed requiring that prison-made products transported in interstate commerce be labeled to indicate that they were made in prison. These were the indirect methods undertaken to hamper and eliminate the sale of prison-made goods on the open market.

Trend of Employment of Prison Labor

While the available statistics on prison labor are for many reasons unreliable, long-time tendencies are visible in the periodic reports which have been made by the Bureau of Labor Statistics. These indicate the practical disappearance of the lease and contract systems and the growth, especially in the twentieth century, of various methods of employing prisoners in the service of the State. However, the general effect has been a decline in the percentage of all prisoners engaged in productive work. Complete figures for 1936 would undoubtedly show a considerable further decrease as compared with 1932, and those familiar with the conditions represented by these figures know that, because of part-time employment and the evident desire to keep prisoners occupied, the proportion employed at productive labor is always less than indicated. (See next article for 1940 data.)

Nevertheless many millions of dollars' worth of goods are still produced for the open market. This is of course a very small fraction of the total of all industry, and is diversified over a great many products. In a few industries, like the manufacture of work shirts and binder twine, prison competition was serious enough to have created a grave problem during the days of the National Recovery Administration.

In essence, the nature of this problem was the presumed inability of several industries, with serious prison-labor competition, to maintain the standards expected in codes of fair competition as long as they had to compete with the output of prison factories. After an effort on the part of some industries to outlaw prison production for the open market, an organization was established by prison administrators to work, under the aegis of the NRA, toward establishing terms of fair competition between prison industries and private

² For later legislation and court decisions, see article on Federal Prison-Labor Legislation (p. 753).

industry. In general, this was a praiseworthy venture in cooperation in handling a problem on which there had been little cooperation in the past. That is not to say that the criticism by business ceased entirely and that allegations of unfairness did not persist. When the cotton-garment industry was seriously undertaking the adoption of the 36-hour week, members of the industry advanced as one reason for their inability to conform with these high standards the competition they were receiving from prison contractors. The NRA, at the instance of the President, appointed a committee to report upon the problem.³ This committee considered the cotton-garment situation in particular and the problem of prison-labor competition in the open market in general. It found no permanent solution in the Prison Labor Compact but recommended, instead, assistance to the States in a widespread development of State-use industries by means of Federal aid, with the objective of minimizing open-market competition.

Prison Industries Reorganization Board and Its Work

After the death of the NRA the President appointed the Prison Industries Reorganization Board, with wide powers to conduct, in cooperation with the States, surveys of the industrial operations and allied activities carried on by the State penal and correctional institutions, and to formulate and recommend for presidential approval a program for replanning and reorganizing existing prison industrial operations and allied activities.⁴ The Prison Industries Reorganization Administration was given the formidable problem of relieving private industry and labor of competition from prison-made goods and, at the same time, of assisting the States in eliminating idleness and providing an adequate and humane system of rehabilitation for the inmates. This is the very heart of the question of prison labor as it confronts us today. It may be true that the competition of prison-made goods with the output of free industry was rarely such as to undermine free industry. Nevertheless, it was serious in spots, and the moral effect was sufficient to create a demand in practically all the States for strict regulation or the complete removal of competition between prison-made goods and the products of free industry.

It is an absolute impossibility to prevent competition completely if convicts are to be employed in any useful way, because there is almost nothing prisoners do or make which might not be done or made instead by free industry and labor. The economics of the problem are to reduce the competition to the lowest point and to plan production in such a way as to affect prices and wages as little as possible. Aware of the economic and practical problems involved, the Prison Industries Reorganization Administration undertook its work in October 1935.

Study and Suggested Remedies for One State

Most of the States which had been studied up to the end of 1936 are confronted with the predicament of having hundreds or thou-

³ See 1936 edition of Handbook of Labor Statistics for a fuller account of this committee and its work.

⁴ The Prison Industries Reorganization Administration was discontinued in 1940.

sands of men "serving time," with nothing to do. Prisoners have been deprived of work by the loss of markets for goods produced under the contract system, by the failure to devise means of employing prison labor other than in production for the open market, and by the steady growth of the penal population while employment facilities decreased.

The State of Kentucky is a sharp instance of this predicament. For years prior to the passage of the Hawes-Cooper Act in 1929, prisoners in Kentucky institutions were principally employed under contract with private manufacturers who paid the State for the labor of the inmates. This system was specifically authorized by act of the legislature and at one time provided work for more than 2,500 prisoners. The withdrawal of the contractors because of the Hawes-Cooper Act and other influences affecting prison contracts has almost eliminated this form of employment. The accompanying statement, showing distribution of employment at the end of the fiscal years ending June 1931 and June 1935, is graphic proof of the growing burden of idleness under which the penal institutions now operate.

Number employed in Kentucky State institutions, June 30, 1931 and 1935

Employed on—	1931	1935
Contract work.....	2,325	110
State-account work.....		245
State-use work.....	75	69
Maintenance work.....	700	775
Total.....	<u>3,100</u>	<u>1,199</u>
Idle.....	642	2,848

The total number of men employed in all forms of activities dropped in the 4-year period from 3,100 to 1,199 while the idle increased from 642 to 2,848. Contracts under which 2,325 men were employed in 1931 now provide work for only 110.

It may seem unnecessary to argue that every prisoner should have work which occupies his energies, but judges still sentence prisoners to "hard labor" in institutions which cannot provide any work for the majority of their inmates.

The Board came to the conclusion that no adequate solution of the prison-labor problem could be given which did not involve full consideration of those elements which have to do with the commitment and release of prisoners as well as their location in suitable premises and the reconstruction of the penal system with a view toward the rehabilitation of the men committed to its care.

Accordingly, the Board recommended that the Kentucky Legislature pass a law providing for the development of a State-use system of employing prison labor and drawn broadly enough to include a public-works program by prisoners. A reasonably good market exists for the products of prison industries among the institutions of the State and its subdivisions. Work for these institutions and on roads and in forestry camps is useful activity which will interfere as little as possible with the outside price structure and with the labor standards it is able to maintain.

The Board went on to recommend a building program the purpose of which is the abandonment of one of the indefensibly bad prisons of the State and the reconstruction of the other as a maximum-security institution; the location of 800 medium-security prisoners on a farm; the provision of two portable road camps and one forestry camp for prisoners requiring only minimum security; and the building of an institution for woman prisoners of a modified cottage type on a farm.

In addition the Board recommended a widespread development of nonindustrial activities to fill up the gaps in the work program and make it possible to turn out men and women whose physical status is up to par and whose minds have been directed to channels other than crime. The Board recognizes that a prison is not merely a workshop and that some of the most important activities looking toward regeneration are not industrial in character.

General Policies of Board

The steady increase in the prison population makes it difficult to solve the prison-labor problem within institutions, even if they were spread out to include the possibilities of work on farms, on roads, and in forests. Yet the Board found many young first offenders in the institutions and probation was being used sparingly. In other States it was clear from the records that there were men in prison who by accepted standards of public welfare should be outside. The Board thus concluded that it must come to grips with every part of a program for the care and treatment of offenders. Recommendations were made for the establishment of modern probation and parole systems with the thought that work should be sought for probationers and parolees outside the institutions while serving all the ends of penal treatment at less cost. Implicit in these recommendations is a program looking toward the reconstruction of our State prisons as centers for the rehabilitation of the men confined in them. Work is an important part of this program; but the work reserved for prisoners should be selected on the basis of the needs of the men and with careful consideration of the effect of this work upon free industry and labor. Prison labor can no longer be looked upon as a source of private profit; but the labor of prisoners can be made to return some of the cost of maintenance to the State. By radical diversification of work and output the competitive effects are minimized and the opportunity of the individual prisoner enlarged. By confining sales to tax-supported agencies, open-market competition is avoided.

All reasonable people must agree that the complete task of prison officials is to build up the prisoner to hold his own in ways approved by society. To accomplish this end it is necessary to give some study to the individual prisoner; to determine a course of treatment based upon his individual needs; to guide his activity to prevent deterioration through contamination, confinement, and introversion; to occupy his time in healthful pursuits; to substitute new forms of behavior for old; to give the prisoner a sense of the prospects still ahead; to make lasting his return to normal social life. The recommendations of the Prison Industries Reorganization Administration lay the

groundwork for such a program, which, at best, will not be easy to establish in each State.



Prison Labor in the United States, 1940¹

The various systems under which State and Federal prisoners have been employed and the disposal of the goods produced in prisons have for many years received the active attention of organized labor, prison authorities, manufacturers, legislators, and others familiar with prison problems. There has been strong opposition to the sale of prison-made goods on the open market in direct competition with the products of free labor. Those States which wished to restrict the inflow of prison-made products were hampered in their efforts by the fact that, under the Constitution, control of the interstate transportation of goods rests in the hands of the Federal Government.

The Bureau of Labor Statistics has made comprehensive surveys of prison labor at 8- or 10-year intervals since 1885. The most recent of these, covering the fiscal year of 1940, and including all adult Federal and State prisons in 48 States and the District of Columbia, is reported in full in Bulletin No. 698 and here summarized. A comparison of the 1940 survey with that for 1932 shows the changes which have occurred in the amount of prison labor and the volume and character of production since the Hawes-Cooper and Ashurst-Sumners Acts became effective. The average number of prisoners under sentence in State and Federal prisons increased from 158,947 in 1932 to 191,776 in 1940. During the same period, the average number of prisoners productively employed changed but slightly, from 82,276 to 83,515. Thus, the proportion of all prisoners productively employed decreased from 52 percent in 1932 to 44 percent in 1940. Contractors employed less than 1 percent of those productively employed in 1940, as compared with 16 percent in 1932. Furthermore, in 1940 only 12 percent of the employed prisoners produced goods which were sold for State account on the open market, in contrast to 19 percent in 1932. Approximately 88 percent of the productively employed prisoners in 1940, as against 65 percent in 1932, were engaged in constructing or improving public property and in producing goods for use within the same institution or for sale to other State or Federal institutions or departments.

The decrease in the proportion of productively employed prisoners was accomplished by a 25-percent drop in the value of prison production—from approximately \$75,369,000 in 1932 to \$56,732,000 in 1940. The average annual value of product per employed prisoner declined from \$916 in 1932 to \$679 in 1940, or 26 percent.

A majority of the prisoners without productive employment in 1940 (constituting 36 percent of all prisoners) were assigned to maintenance duties. Six percent of the total prison population attended school as a major daily assignment, 8 percent were sick or otherwise unavail-

¹ Abstract of an article on Prison Labor in the United States, 1940, by Richard F. Jones Jr., Bureau of Labor Statistics, in the Monthly Labor Review for September 1941.

able for work, and 6 percent were available for work but had no duties provided.

To offset losses in revenues and to alleviate the grave problem of idleness among prisoners, various solutions have been tried. Among the most effective have been surveys of State-use markets, the creation of prison-industry boards, commissions, or corporations, and State legislation tending toward compulsory purchase of prison goods by State agencies. Federal institutions and State institutions of 27 States (12 of which employed salesmen) reported that in 1940 they made some attempt to promote the sale of prison-made goods. Typical of the methods reported are the circulation of catalogs and the coordination of prison production with the needs of State purchasing officers.

Systems of Work

Two distinct trends in prison labor are apparent from the Bureau's surveys. First, the systems of work which permitted the exploitation of the prison population for private gain have practically disappeared. Second, the proportion of prisoners productively employed has decreased consistently.

In 1885, 74 percent of the prisoners productively employed were working primarily for the benefit of private contractors. Table 1 indicates the steady decrease in this percentage through the years. The lease system, the most condemned of all, had disappeared by 1923. In 1940 no prisoners were found working under the contract system and less than 1 percent were employed under the piece-price system.

Inversely, the percentage of productively employed prisoners working under those systems wherein the State exerts all control and receives all benefits has risen from 26 percent in 1885 to slightly less than 100 percent in 1940. Moreover, efforts to restrict open-market sales and direct competition with free labor have been reflected in a sharp decrease in the percentage of inmates working under the State-account system. True, there was an upswing between 1905 and 1914 caused by the understandable and oftentimes necessary efforts of authorities to offset the losses in revenue resulting from the large decrease in the number of prisoners employed under the three contract systems. But as restrictive State statutes began to appear in increasing numbers, it was generally recognized that the complete adoption of the two types of State-use systems should be the ultimate goal. As a result, in 1940 only 12 percent of the productively employed prisoners were engaged in producing goods for sale to other than public institutions and agencies. The percentage of the employed prisoners producing exclusively for public use rose from 26 percent in 1905 to 88 percent in 1940, having jumped 23 percent since 1932.

Unfortunately, this commendable effort to supplant all other systems by the State-use and public works and ways systems has resulted in a very marked decrease in the number of employed prisoners. Whereas in 1885, 75 percent of all prisoners incarcerated in State and Federal prisons were productively employed, in 1940 only 44 percent were so engaged.

TABLE 1.—Percent of prisoners productively employed in State and Federal prisons, 1885-1940, classified by systems of work

Systems of work	Percent of prisoners productively employed						
	1885	1895	1905	1914	1923	1932	1940
All systems.....	100	100	100	100	100	100	100
State-use.....	1.26	1.33	18	22	36	42	59
Public works and ways.....			8	11	19	23	29
State-account.....			21	31	26	19	12
Piece-price.....	8	14	8	6	7	11	(?)
Contract.....	40	34	36	26	12	5	0
Lease.....	26	19	9	4	0	0	0
Percent of all prisoners under sentence, engaged in productive labor.....	75	72	65	(?)	61	52	44

No separation made of State-account, State-use, and public works and ways system in this year.

• Less than 1 percent.

• Not reported.

The ascendancy of the two types of State-use systems at the expense of those under which goods flow to the open market is strikingly shown in table 2 also. The value of production under the former systems rose from approximately 38 to 84 percent of the total between 1923 and 1940, while the value of goods produced under the latter systems declined from a high of 62 to a low of 16 percent. Especially significant is the curtailment in the production volume, in the two types of contract shops, to only half of 1 percent of the total value in 1940.

The value of State-use products was 61 percent higher in 1940 than in 1932. The rate of increase was faster during this period than between 1923 and 1932. A drop of almost \$8,500,000 in the value of road construction in four Southern States—Alabama, Florida, Georgia, and Virginia—was primarily responsible for the noticeably large decrease in the value of public works and ways construction between 1932 and 1940.

TABLE 2.—Value of production in State and Federal prisons, 1923, 1932, and 1940, by systems of work

Systems of work	Value of commodities produced			Percent of total value		
	1923	1932	1940	1923	1932	1940
All systems.....	\$76,096,960	\$75,369,471	\$56,731,654	100.0	100.0	100.0
State-use.....	13,753,201	21,260,411	34,159,572	18.1	28.2	60.2
Public works and ways.....	15,331,545	25,159,152	13,448,838	20.1	33.4	23.7
State-account.....	16,421,878	12,367,646	8,823,266	21.6	16.4	15.6
Piece-price.....	12,340,986	10,522,200	299,978	16.2	14.0	0.5
Contract.....	18,249,350	6,060,062	0	24.0	8.0	0.0

Type of Production

To show the number of prisoners employed in producing various types of commodities, the production unit used is in most cases synonymous with a prison shop. "Type of production," as used in table 3, indicates the various types of daily work assignments commonly used by prison authorities and therefore most suitable for obtaining accurate averages of men employed.

The decline of over \$18,000,000 in the total value of prison production between 1932 and 1940 may be attributed mainly to the loss of contracts by State prisons. In the production of clothing alone, the

loss in State prisons amounted to over \$15,000,000; and in the output of furniture, to slightly less than \$1,000,000. Despite a reduction of 31 percent in the value of goods produced in State prisons, it was found possible by spreading the work to employ practically the same number of prisoners in 1940 as in 1932. In the case of construction activities, value of production declined 52 percent between 1932 and 1940, but employment rose 26 percent. In the clothing shops, where the use of machines restricted the spread of work, there was a loss of 55 percent in the number employed, as compared with a decrease of 73 percent in the value of product. In 1940 construction took first place (formerly held by clothing) in the number of prisoners employed and also maintained its leadership in the dollar column. Second in volume of employment and dollar value in 1940 were farm products, relegating the manufacture of clothing to third place.

TABLE 3.—Prisoners productively employed and value of production in State and Federal prisons, by type of production, 1932 and 1940

Type of production	Average number of prisoners productively employed		Value of commodities produced	
	1932	1940	1932	1940
Total, State and Federal prisons.....	82, 276	83, 515	\$75, 369, 471	\$56, 731, 654
State prisons				
All types.....	77, 267	76, 775	\$71, 306, 061	\$48, 995, 818
Agricultural implements and parts.....	173	298	572, 666	777, 571
Bakery products, commercial.....	26	19	35, 577	32, 043
Brooms, brushes, and mops.....	664	358	892, 757	184, 189
Clay, cement, and stone products.....	1, 843	1, 208	687, 787	402, 069
Clothing, other than knit.....	18, 342	7, 719	20, 362, 921	5, 030, 988
Clothing, knit.....	1 688	927	1 681, 861	716, 127
Construction:				
Buildings.....	5, 372	2, 123	6, 685, 341	2, 959, 103
Land development.....	1, 000	954	469, 616	171, 795
Major repairs to buildings.....	513	418	611, 160	333, 371
Major repairs to roads.....	504	12, 377	182, 274	4, 112, 184
Roads.....	9, 205	5, 444	15, 286, 536	3, 668, 305
Miscellaneous.....	878	750	817, 741	373, 045
Cordage.....	1, 802	1, 316	4, 368, 901	3, 634, 779
Farming:				
Cattle.....		298		413, 646
Dairy.....		1, 572		2, 159, 606
Field crops and garden.....		17, 380		5, 378, 604
Hogs.....		664		1, 100, 850
Poultry and poultry products.....		375		339, 771
Miscellaneous.....		429		87, 327
Furniture, metal.....	282	738	191, 144	330, 520
Furniture, wood.....	3, 586	2, 966	2, 410, 736	1, 295, 095
Furniture, other than metal or wood.....	162	457	205, 136	402, 582
Grain-mill products.....	4	119	7, 251	337, 089
Laundry, commercial.....	203	249	90, 561	125, 100
Metal products:				
Tags, highway markers, and signs.....	1, 250	2, 008	2, 605, 896	3, 810, 862
Miscellaneous.....	1, 093	1, 155	667, 715	520, 625
Mining.....	1, 057	729	312, 018	244, 609
Paint.....		63		196, 413
Printing and binding.....	958	1, 121	673, 425	657, 037
Quarrying and rock crushing.....	3, 302	3, 145	887, 435	573, 237
Repair and shop work.....	315	(²)	122, 663	(²)
Soap and other detergents.....	61	262	135, 666	536, 785
Sugar.....	132	148	189, 609	398, 475
Textiles.....				
Textile products.....	4, 748	5, 384	3, 706, 711	3, 513, 939
Wood products.....	506	591	293, 019	274, 609
Other manufactured products.....	1, 166	1, 912	1, 281, 562	2, 907, 277
Miscellaneous (labor only).....	101	(²)	56, 004	(²)
Miscellaneous (nonmanufacturing).....		134		41, 777

¹ Does not include knit underwear, inseparably included in "clothing, other than knit."

² Included under appropriate type of production.

TABLE 3.—Prisoners productively employed and value of production in State and Federal prisons, by type of production, 1932 and 1940—Continued

Type of production	Average number of prisoners productively employed		Value of commodities produced	
	1932	1940	1932	1940
Federal prisons				
All types.....	5,009	6,740	\$4,063,410	\$7,735,836
Bakery products, commercial.....	10	.....	12,622	.....
Brooms, brushes, and mops.....	155	343	283,081	973,280
Clay, cement, and stone products.....	134	.....	34,252	.....
Clothing.....	1,039	1,181	797,491	1,764,437
Construction:				
Buildings.....	735	1,806	693,583	1,434,173
Land development.....	192	9	41,740	7,660
Major repairs to buildings.....	233	149	283,599	78,725
Major repairs to roads.....	4	8	5,000	4,750
Roads.....	2	238	1,140	202,142
Miscellaneous.....	60	61	81,423	103,585
Farming:				
Cattle.....	.....	3	.....	5,621
Dairy.....	.....	137	.....	155,384
Field crops and garden.....	980	732	306,290	135,355
Hogs.....	.....	57	.....	118,713
Poultry and poultry products.....	.....	17	.....	22,188
Furniture, metal.....	.....	326	.....	422,854
Furniture, wood.....	30	237	13,802	245,328
Furniture, other than metal or wood.....	19	51	6,472	156,054
Laundry, commercial.....	138	210	113,945	92,907
Metal products:				
Tags, highway markers, and signs.....	.....	5	.....	6,792
Miscellaneous.....	.....	36	.....	43,671
Printing and binding.....	82	79	54,365	89,791
Repair and shop work.....	61	(?)	16,077	(?)
Textiles.....	.....	728	.....	1,090,087
Textile products.....	970	169	1,201,548	376,187
Wood products.....	26	74	13,230	70,460
Other manufactured products.....	50	84	54,306	135,692
Miscellaneous (labor only).....	89	(?)	49,444	(?)

¹ Included under appropriate type of production.

Examination of the State-prison data discloses a concentration of both employment and value in a comparatively few types of products. Of the 39 types of production, 19, each with production valued at over \$500,000 in 1940, employed 90 percent of the prisoners and accounted for 90 percent of the value of all commodities. The value of metal tags, highway markers, and signs rose well over \$1,000,000 between 1932 and 1940, largely because in the latter year 40 States (an increase of 14 over 1932) manufactured automobile license tags. In 1940, 34 percent more prisoners were engaged in the production of textiles and textile products than in 1932, with an increase of only 9 percent in the volume of output.

Between 1932 and 1940 the Federal prisons achieved an increase of 90 percent in total value of products, but of only 35 percent in the number of production workers. Although the rises in employment and output were distributed among most types of production shown in table 10, they are particularly noticeable in such classifications as brooms, brushes, and mops, clothing, building construction, and furniture. This last is a comparatively new industry in Federal prisons.

Federal Prison-Labor Legislation

Prior to the passage of the Hawes-Cooper Act in 1929, State efforts to regulate the sale and distribution of prison-made goods were held invalid on constitutional grounds when the legislation concerned the shipment of goods in interstate commerce. State courts consistently held that a State could regulate the sale of prison products made within its own prisons, but could not, without congressional action, regulate the sale of convict-made goods imported from other States. As a result, leading labor and manufacturers' organizations repeatedly petitioned Congress for aid in this matter, but it was not until the passage of the Hawes-Cooper Act in 1929 that Congress enacted any legislation on this subject.¹ In brief, this act divested prison-made goods of their interstate character, thereby subjecting them to the laws of the State in which they are offered for sale, irrespective of the place of origin. The act was signed on January 19, 1929, and became effective 5 years from that date, namely, January 19, 1934. The purpose of that delay was to allow sufficient time for the reorganization and readjustment of the several prison industries. It should be noted that this law does not prohibit the interstate shipment of prison-made goods, but permits a State to impose restrictions upon such goods after they are transported into the State.

Immediately after the passage of this act many of the States, taking advantage of the opportunities so afforded them, enacted legislation regulating the sale of prison-made goods.²

The constitutionality of the Hawes-Cooper Act was upheld by the United States Supreme Court in the case of *Whitfield v. State of Ohio* (297 U. S. 431).³ In an opinion, delivered by Mr. Justice Sutherland, the Court held that the Hawes-Cooper Act did not constitute an unlawful delegation of congressional power to the State, and that the statute was constitutional, since all that it did was to allow the jurisdiction of the State to attach to any prison-made goods immediately upon entrance into the State. Prior to this decision the United States Supreme Court, in 1934, refused to grant permission to the attorney general of Alabama to file a bill challenging the laws enacted by five States (Arizona, Idaho, Montana, New York, and Pennsylvania) under the authority granted in the Hawes-Cooper Act.⁴

The Hawes-Cooper Act was materially strengthened by a subsequent Federal act approved July 24, 1935, known as the Ashurst-Sumners Act.⁵ This law imposes a maximum penalty of \$1,000 on any person shipping prison-made goods into a State whose laws forbid the sale of such goods on the open market. In addition, the law requires that any prison-made goods transported in interstate commerce must be marked, showing the name and address of the shipper and

¹ United States Code, 1934, title 49, sec. 60.

² For a survey of State prison-labor legislation as of June 1, 1940, see *Monthly Labor Review* for June 1940 (p. 1422). (Reprinted as Serial R. 1130.)

³ See *Monthly Labor Review* for April 1936 (p. 998).

⁴ *Alabama v. Arizona et al.*, 291 U. S. 286. See *Monthly Labor Review* for March 1934 (p. 578).

⁵ See *Supp. V* to U. S. Code, 1934, tit. 49, secs. 61-64

the consignee, as well as the contents, and the name of the penal institution from which the goods were shipped.

In a decision rendered on January 4, 1937, the United States Supreme Court held constitutional the Ashurst-Sumners Act.^a The Court, in an opinion delivered by Mr. Chief Justice Hughes, held that "where the subject of commerce is one as to which the power of the State may constitutionally be exerted by restriction or prohibition in order to prevent harmful consequences, the Congress may, if it sees fit, put forth its power to regulate interstate commerce so as to prevent that commerce from being used to impede the carrying out of the State policy." The Court concluded by stating that the requirement that prison-made goods be labeled "was manifestly reasonable and appropriate for the carrying out of the prohibition."

During the third session the Seventy-Sixth Congress went still further, enacting a law (Public Act No. 851, 1940) which absolutely prohibited the transportation of prison-made goods in interstate commerce. This act does not apply to goods manufactured in Federal or District of Columbia penal or correctional institutions for use by the Federal Government, or to goods manufactured in any State prison for use by another State. Agricultural commodities and repair parts for farm machinery are also exempted from coverage by the act. The law became operative on October 14, 1941. The text of the act is as follows:

Whoever shall knowingly transport or knowingly cause to be transported in interstate commerce, in any manner or by any means whatsoever, or aid or assist, knowingly, in obtaining transportation for or in transporting any goods, wares, and merchandise manufactured, produced, or mined, wholly or in part by convicts or prisoners (except convicts or prisoners on parole or probation) or in any penal or reformatory institution, from one State, Territory, Puerto Rico, Virgin Islands, or District of the United States, or place noncontiguous but subject to the jurisdiction thereof, or from any foreign country, into any State, Territory, Puerto Rico, Virgin Islands, or District of the United States, or place noncontiguous but subject to the jurisdiction thereof, shall be punished by a fine of not more than \$1,000 or by imprisonment of not more than one year, or both: *Provided*, That nothing herein shall apply to commodities manufactured in Federal or District of Columbia penal and correctional institutions for use by the Federal Government or to commodities manufactured in any State penal or correctional institution for use by any other State, or States, or political subdivisions thereof; to parts for the repair of farm machinery; or to agricultural commodities; *Provided further*, That this act shall go into effect 1 year after its approval by the President.



Industrial Training of Prisoners ¹

A survey of release procedures in prisons, issued by the United States Attorney General, includes a volume dealing with prisons and their administration.² Altogether, 88 State prisons and reformatories were investigated during 1936 and 1937. Although the data here summarized deal with conditions in State prisons, Federal institutions were also examined, and a separate section of the report deals with them.

^a *Kentucky Whip & Collar Co. v. Illinois Central Railroad Co.*, 299 U. S. 334. See Monthly Labor Review for February 1937 (p. 397).

¹ From the Monthly Labor Review for November 1940.

² U. S. Department of Justice. Attorney General's Survey of Release Procedures, vol. V: Prisons. Washington, 1939.

It has been a general impression that prisons both punish and reform convicts, and that if released prisoners again commit crimes, the particular release procedure is to blame. The report here reviewed states that it is obviously too much to expect that an institution which is organized for safekeeping the offender will release him "competent and willing to find a way of adjusting himself to the community without further law violations." A prison can examine and diagnose a case and give the individual some training, but rehabilitation is the function of the parole system.

The general situation presented in this survey is not encouraging, if viewed as a whole. Of 137,000 male felons in American State prisons in 1936-37, nearly 30,000 were living in road and farm camps "most of which at best were only convenient concentration stockades for criminals." In 390 prison road and farm camps, little was being done to prepare prisoners for release. However, the convicts were not idle, and were living a healthy outdoor existence. In 85 penal institutions, where the remainder of the prison population lived, over 40,000 were housed in overcrowded quarters.

Business administration in 75 percent of the State prisons for men has been strengthened by the centralization of control in a single paid State director or State board. But men are selected "primarily for political rather than penological qualifications" to administer prisons. The salaries received by guards are the equivalents of those paid for unskilled labor, but many prisons have adopted reasonable pay scales for administrative and professional workers. Over half of the prisons operate on a 48- or 56-hour week for employees, but a large majority of the others still work from 70 to 84 hours weekly.

As the training function of the prison becomes increasingly important, the tendency is for it to be harmonized with the custodial function rather than to be substituted for it. Prison industries are essential as a means of keeping prisoners normal and of helping to pay expenses. These industries were found to be at a low ebb, however, at the time of the survey, except for the manufacture of binder twine, farm machinery, and automobile license plates. From a total value of \$70,000,000 in 1932, prison production was reduced to \$20,000,000 in 1936-37. In this period the number of prisoners employed dropped from over 70,000 to not more than 25,000. Adding 26,000 prisoners working in farm, road, and forestry jobs, and 33,000 engaged in maintenance, there was apparently no work for 55,000, out of a total of approximately 135,000 male prisoners.

Training facilities were also very limited. Vocational work supplemented the instruction given by industrial foremen in the course of shop routine in 17 prisons. Shop practice, although helpful, is not enough to enable prisoners to acquire definite skills. A permanent policy of experimentation in prison education was found in 24 prisons. Little correlation has been developed between correction of criminal tendencies and education.

As a result of study of the essential functions of custody and discipline, the introduction of classification, and the development of medical care, religious work, prison industries, and education in prisons, imprisonment is better understood in its relation to release procedures, the report states. It has become a recognized fact that prisons are limited in their power to reform criminals. Application in normal society of knowledge and skill gained in prison is the real test.

United States Prison Schools ¹

The Bureau of Prisons in the United States Department of Justice operates what is said to be the "largest unified correctional plan in the world." As pointed out in an article published by the United States Office of Education,² "to turn the criminal loose on society after punishment, without any effort to better him before he again attempts to gain a living by honorable means, is in many cases the cause of making him more antisocial and possibly more criminal." An educational and training program has therefore been established by the Bureau of Prisons which is designed to meet individual requirements and, with proper discipline, to aid in restoring the prisoner to more harmonious relations with society.

Selection of Prisoners for Education

A new Federal prisoner must go through a period in which he is interviewed and examined by a number of officers—the record clerk, associate warden, warden's assistants, or institutional case workers, chief medical officer, psychiatrist, psychologist, the educational supervisor, chaplain, recreation officer, and parole officer. Each of these members of the staff studies the prisoner and recommends corrective and remedial measures.

The classification committee composed of the above-mentioned staff members, presided over by the superintendent or warden, considers the data on the case and the recommendations of the different specialists, and formulates a definite program with reference to the custody, discipline, social service, education, employment, recreation, religious training, medical and surgical treatment, psychiatric and psychological attention, and (when necessary) transfer to another institution.

Principal Educational Activities

The units which constitute the basis of the educational program for Federal prisoners are as follows:³

(1) Elementary courses for illiterates and border-line illiterates, including individuals below the fourth- or fifth-grade level on standardized tests for achievement but who are able to assimilate such education.

(2) Higher academic education for those inmates who are above the preceding group on standardized tests for achievement and who wish to make up deficiencies in their elementary schooling.

(3) Allied trades and occupational classes for selected industrial workers and for all vocational trainees. In vocational education the main emphasis is on the utilization of the regular operation and industrial activities of the institution for training "on the job." Those prisoners who are able to assimilate trade training and develop superior industrial or trade skills are designated as vocational trainees by the prison classification committee and are obliged to follow a plan of related school work.

¹ From the Monthly Labor Review for May 1940.

² U. S. Office of Education. *School Life* (Washington), March 1940, pp. 172-173: *Schools Under the Federal Government: The Department of Justice*, by Walton C. John.

³ U. S. Department of Justice. *Bureau of Prisons. Education in the Federal Prisons*, by Benjamin Frank. Washington, 1938.

(4) Fairly advanced special classes in languages, mathematics, commercial subjects, mechanical drawing, lettering, and various other subjects have been organized to meet the practical and cultural interests of selected higher-grade prisoners.

(5) Correspondence and cell courses of study for those inmates who are unable to attend classes or whose interests and requirements cannot be met in the units outlined above. With a small number of exceptions, all cell courses of study are planned by the educational department and administered very much in accordance with the methods of standard correspondence schools. These cell study and correspondence courses are both vocational and academic. Among the typical subjects taught are correct English, arithmetic for adults, modern business arithmetic, laundry practice, household refrigeration, Diesel engines, and agriculture.

These principal educational activities are not equally emphasized, however, in all Federal prisons.

The United States Industrial Reformatory, Chillicothe, Ohio, has a school which is regarded as having the "widest and most complete development" in Federal reformatory schools. The school proper is located in a two-story building with classrooms, special rooms for instruction through visual aids, a well-equipped library, a science laboratory, a day and evening school for academic and vocational subjects, music instruction, a well-organized recreational program, and a very successful inmate council. In other prisons it has been found advisable to pay more attention to the lower levels of elementary education, because so many of the inmates are illiterate.

Enrollments

About 7,200 inmates in the several penal institutions of the United States Government were participating in educational work in 1938-39. Of these prisoners, 4,300 were in the regular elementary classes or other special courses; more than 1,200 men were receiving vocational training; and over 1,700 were registered for cell study and correspondence courses.

Libraries

The Federal prison libraries play an important part in the educational activities of the penitentiaries. Full-time librarians attached to the educational staff direct the large institutional libraries. "The total number of volumes in the 19 libraries approximates today over 136,000. The largest collection is found at the Atlanta Penitentiary, with more than 18,000 volumes."

In the year referred to, 728,621 books were circulated; also approximately 170,000 single issues of magazines. More than one-third of the books loaned were in the nonfiction class. In institutions in which there were full-time librarians, the average was over 40 percent. In most prisons the inmates are permitted to go to the libraries and select their books. The Lewisburg Penitentiary library is open for readers in the evenings and is taxed for seating room. Under a carefully worked out schedule of the Atlanta Penitentiary, prisoners are allowed to go to the library to select their own books, to browse in the stacks, or to read magazines and newspapers. Other large institutions use "bookmobiles" for the distribution of library literature.

Work of Federal Prison Industries Corporation, 1940 ¹

Substantial progress in diversifying the work of inmates of Federal penal and correctional institutions is shown by reports of the directors of Federal Prison Industries, Inc. This corporation was established in 1934 to determine the manner and extent of industrial operations in Federal prisons and to diversify the work so that no single industry should bear an undue burden of competition from prison-made goods.

Twenty-six different industries in 12 of the various penal and correctional institutions have given steady employment to approximately 3,500 inmates manufacturing articles for Federal Government use only. Each of these inmates has more than repaid his per capita costs in labor values produced. In addition, they earned \$280,000 in wages, of which those with dependents were required to send at least 75 percent home, thus materially lightening the burden upon local relief agencies. The total value of products sold during the fiscal year 1940 to various Government agencies was slightly over \$5,200,000.

The policy of diversification has been continued by increasing the variety of articles manufactured rather than concentrating upon a few items which would throw an undue burden upon a small number of outside industries. Even in the larger industries, such as textiles or shoe manufacturing, the policy of the Industries Board in supplying only a "pro rata proportion of the Government's demand" allays any fear that Federal prison industries will ever unduly compete with private industry. For example, during the fiscal year 1940 the Bureau released orders for over 1,750,000 pairs of shoes for Government use to the commercial market, reserving but a fraction of this amount for the prison shop at Leavenworth. In fact, the output of that shop was less than six one-hundredths of 1 percent of all shoes produced in the United States.

One new industry came into production during the fiscal year. A metal specialty shop was established at the Federal Correctional Institution at Milan, Mich., where metal hospital, dormitory, and cell beds are manufactured. To carry on this policy of diversification, a reserve fund was set up from earnings for the purpose of establishing new industries and for carrying on a vocational training and placement program. Practically all of the standard items of furniture and equipment for the new penal institutions were made in the prison shops.

In addition to those prisoners engaged in prison industries, another 3,500 were employed in dairying and farming and on construction, and nearly 9,000 were assigned to maintenance tasks such as office work, culinary operations, hospital and mechanical service, and general maintenance work. In estimating the constructive employment of prisoners, of course, recognition must also be given to the time devoted to educational activities, which during the year was equivalent to the full-time employment of a large number of inmates.

¹ U. S. Department of Justice. Annual Report of the Attorney General for the Fiscal Year Ended June 30, 1940 (pp. 186, 187).

Productivity of Labor

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Productivity of Labor and Industry and Technological Developments

The most significant contribution in the field of labor productivity during the past few years has been the series of studies undertaken by the Work Projects Administration¹ National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques. The studies, more than 60 in number, present a mass of information covering changes in technology and productivity during the last two decades or more. The general problem toward which the studies point is the relationship between changes in industrial techniques, or methods of production, and changes in the volume and incidence of production, employment, and unemployment. Given questions are analyzed within a context of historical economic relationships.

One series of reports deals with types and rates of technological change. Reports of this type have been published for the brick, cement, lumber, cotton-textile, woolen and worsted, and cotton-garment industries. Two additional reports for manufacturing industries treat the more general questions of industrial instruments and industrial research in relation to changing technology. Several studies have been made of mineral technology. Changes in farm power and equipment are analyzed in three reports: One on tractors, trucks, and automobiles, a second treating field implements, and a third the mechanical cotton picker.

The larger share of the National Research Project's work relates to studies of changes in labor productivity. Comparable statistical series on production, employment, and productivity in 59 manufacturing industries have been developed. For a number of industries, more detailed reports, including data on the characteristics and conditions of each, have been prepared as case studies for the analysis of economic factors affecting the relationship between production, productivity, and employment changes. In a series of studies undertaken in cooperation with the Department of Agriculture, data are presented on changes in agricultural production, farm population and employment, the relation of their trends to changes in agricultural techniques, and the trend in labor requirements for the principal agricultural products in relation to farm practices. In collaboration with the Bureau of Mines, surveys of the major extractive industries were prepared. These include statistical series on output, employment, and productivity, supplemented by data on installations and sales of mechanical equipment and on conditions of mining.

The reports in the third series issued by the National Research Project are studies of the labor market. In general, these deal with the employment and unemployment experience of various industrial and occupational groups in Philadelphia and certain other areas. Emphasis is placed on the impact of technological changes on the labor supply.

¹ Formerly Works Progress Administration.

Four of the studies of productivity in manufacturing industries were carried on jointly by the National Research Project and the Bureau of Labor Statistics and were published by the Bureau. Other reports issued by the Project on trends in productivity and types and rates of technological change have been summarized in the *Monthly Labor Review*.

A new Division (Productivity and Technological Development) was organized within the Bureau of Labor Statistics late in 1940 in consequence of authority granted by Congress to make continuing studies of labor productivity. For selected industries, the Division is bringing earlier studies up to date and is collating the productivity data with other materials which will assist in evaluating the extent and significance of technological advance. In addition, the Division is to undertake original research in labor productivity. Detailed studies of this type, involving direct field analysis of labor requirements in individual plants, will be especially useful in forecasting probable future employment and occupational trends.



Technological Trends and National Policy

On June 18, 1937, the National Resources Committee submitted to the President a report by its subcommittee on technology, entitled "Technological Trends and National Policy, Including the Social Implications of New Inventions." The report, which made extensive use of information published by the Bureau of Labor Statistics and various other agencies in the field of technological changes and their social effects, goes beyond most of the previously published studies in dealing with probable future trends on the ground that "anticipation of the future is the key to adequate planning for the best use of our national resources."

The report analyzed the social aspects of technology, including the relation between technology and labor productivity and the volume of employment. It included a survey of technology in the principal fields of productive enterprise: Agriculture, the mineral industries, transportation, communication, power, the chemical industries, the electrical goods industries, metallurgy, and the construction industries. An effort was made to evaluate a considerable number of recent developments such as air conditioning, the airplane, the mechanical cotton picker, and tray agriculture.

The recommendations of the subcommittee are reproduced below.¹

Recommendations

"1. The reports herewith presented reveal the imminence of a few very important inventions that may soon be widely used with resultant social influences of significance. Since these inventions may deeply affect planning, it is recommended that a series of studies be undertaken by the planning agencies herein recommended or by

¹For a summarization of the findings of the report, see *Monthly Labor Review*, September 1937 (p. 615).

existing planning boards, with the aid of such natural and social scientists as may be needed, on the following inventions: The mechanical cotton picker, air-conditioning equipment, plastics, the photo-electric cell, artificial cotton and woolenlike fibers made from cellulose, synthetic rubber, prefabricated houses, television, facsimile transmission, the automobile trailer, gasoline produced from coal, steep-flight aircraft planes, and tray agriculture.

"2. A special case of the influence of invention is technological unemployment. It is recommended that a joint committee be formed from the Department of Labor, the Department of Commerce, the Department of Agriculture, Bureau of Mines, Interstate Commerce Commission, Social Security Board, and the Works Progress Administration with such other cooperation as may be needed, for the purposes of keeping abreast with technological developments and ascertaining and noting the occupations and industries which are likely to be affected by imminent technological changes and the extent to which these inventions are likely to result in unemployment. It is recommended that such information be made available through the appropriate departments to the industry and labor likely to be affected.

"3. In view of the findings regarding the importance of technology and applied science, it is recommended that the Federal Government develop appropriate agencies for continuous study of them; and more specifically that there be set up in the respective departments science committees with the definite function of investigating and reporting at regular periods on the progress and trends of science and invention and the possible and economic effects flowing therefrom as they affect the work of the departments and the agencies to which they render service. Copies of such reports should be supplied to the National Resources Board, and it is recommended that insofar as is feasible they be made available to the various city, county, and State planning boards, and to the public.

"4. Since the patent laws have considerable influence on the rate of technological progress, it is recommended that the whole system be reviewed by a group of social scientists and economists. This review, unlike others dealing with specific reforms, technical operations, scientific aspects, or ethical implications, should be concerned with the articulation of the patenting process with the fundamental processes of human progress and the types of economic systems. From such basic relationships the better adaptation of the system to changing conditions can be worked out in the necessary detail.

"5. It is recommended that the Science Committee of the National Resources Committee, with the cooperation of other scientists that may be needed, make an investigation of the adequacy of the reporting of inventions and of discoveries in applied science and advise on the feasibility (*a*) of more balanced coverage, (*b*) of selecting those more socially significant, and (*c*) of assembling of such data in some central location or locations.

"6. The most important general conclusion to be drawn from these studies is the continuing growth of the already high and rapidly developing technology in the social structure of the Nation, and hence the hazard of any planning that does not take this fact into consideration. This pervasive interrelationship so clearly manifest through-

out the pages of this report points to one great need, namely, a permanent over-all planning board. Such a board is needed to give breadth of consideration to the variety of factors which affect specific plans. This board would take its place in the governmental pattern as coordinator for the many special planning boards, of which there are now 47 State boards, 400 county boards, and 1,100 city boards. The technology committee, therefore, makes to the National Resources Committee, as a major recommendation of this report, the creation of a National Resources Board, as recommended by the President's Committee on Administrative Management in its report of January 8, 1937."



Agriculture: Productivity of Farm Labor, 1909 to 1938 ¹

Changes in Average Output

The widespread use of tractors, automobiles, and electric power on farms has increased the amount produced by the average farm worker and at the same time has reduced the demands for draft animals and for feeds. Three decades ago farmers annually sold to the cities, in the form of work animals, power worth several hundred million dollars. More recently, farmers have bought annually about \$1,500,000,000 worth of power and power machinery. Both of these changes tended to reduce the total amount of labor needed on farms. Various other changes, both in methods of farming and in market conditions, had a similar effect. Market demands for farm products were restricted by the unemployment and low income of large groups in the cities; by the general slowing up of the rate of growth of population; and by the adoption in other countries of restrictions on the imports of goods produced abroad—restrictions resembling in effect our own tariff policies. In addition to tractors, trucks, and electric power on farms, numerous other technological changes, both mechanical and nonmechanical, reduced the amount of labor required for the production of a given quantity of farm commodities or, inversely, increased the average output of farm labor.

Average output per farm worker, including both hired workers and family workers, fluctuated in a manner which at first sight seems to have been somewhat erratic. These fluctuations are explained by the exceptional conditions of the past decade. The total amount of farm commodities produced annually from 1929 to 1935 was sharply reduced by weather conditions, restricted demand, and agricultural adjustment policies. During the same period, the limited opportunity for nonagricultural employment tended to stop the flow of workers from country to city, and, for a time, actually reversed the flow. Most of these additional farm workers, as well as an increasing number already on farms, engaged to a large extent in the cruder forms of subsistence farming. These circumstances materially retarded the rise in the average output per worker. The index of average output (table 1) is significant mainly as indicating the general trend for the period as a whole. There was an increase of about 50 percent in the output per worker during the 3 decades.

¹ Summary of article in *Monthly Labor Review*, August 1939 (p. 282).

TABLE 1.—Estimated changes in agricultural production, employment, and output per farm worker, 1909 to 1938

[Average, 1924-29=100.0]

Year	Production ¹	Number of farm workers ²	Output per worker	Year	Production ¹	Number of farm workers ²	Output per worker
1909.....	78	107.5	73	1925.....	97	100.7	96
1910.....	82	106.9	77	1926.....	102	101.5	100
1911.....	85	106.0	80	1927.....	99	99.0	100
1912.....	90	105.9	85	1928.....	104	99.4	105
1913.....	84	105.9	79	1929.....	101	99.4	102
1914.....	92	105.6	87				
1915.....	89	105.4	84	1930.....	101	98.3	103
1916.....	85	105.8	80	1931.....	107	98.2	109
1917.....	89	103.8	86	1932.....	100	97.4	103
1918.....	89	99.0	90	1933.....	97	97.0	100
1919.....	87	97.7	89	1934.....	94	95.5	98
1920.....	91	100.0	91	1935.....	92	98.3	94
1921.....	83	100.4	83	1936.....	95	96.8	98
1922.....	92	100.7	91	1937.....	109	95.3	114
1923.....	95	100.2	95	1938.....	104	94.6	110
1924.....	97	100.0	97				

¹ The Bureau of Agricultural Economics' index of production, beginning in 1919, linked to the index extending back to 1909 computed by Raymond G. Bressler, Jr., and John A. Hopkins in WPA National Research Project, Report No. A-6.

² Estimates 1909-36 by Eldon E. Shaw and John A. Hopkins in WPA National Research Project, Report No. A-8; later figures by the U. S. Bureau of Agricultural Economics. The figures include both hired workers and family workers.

More adequate than the general estimates for farming as a whole² are the figures for particular types of farming. These are available for the past three decades for corn, wheat, cotton, oats, potatoes, and sugar beets.³ Studies of these branches of agriculture have produced results that tend to confirm the estimates of average output for agriculture as a whole, although there has been a wide range in the rate of increase of labor productivity. The earliest and latest periods compared are as follows: For corn, 1909-13 and 1932-36; for wheat, for oats, and for potatoes, 1909-13 and 1934-36; for cotton, 1907-11 and 1933-36; and for sugar beets, 1913-17 and 1933-36.⁴ The average man-hour output in the later period, as compared to the earlier period, showed for corn an increase of 21 percent; for potatoes, 23 percent;⁵ for cotton, 24 percent; for sugar beets, 29 percent; for oats, 56 percent; and for wheat, 117 percent.⁶

In 1909-13, the estimated average amount of labor (including both family and hired labor) required to produce a bushel of corn was 1.09 man-hours, and the average in 1932-36 was 0.90 man-hour, a reduction of about 17 percent. In the other 5 crops previously

² One of the major difficulties in the way of estimating changes in the general level of labor productivity is the dependence of such estimates on rough approximations of total output. In making these approximations it is necessary to combine in the form of index numbers the various types of farm commodities as different in nature as bushels of wheat, bales of cotton, and the number of the various types of livestock. It is necessary also to make allowances for commodities not marketed but consumed on farms.

³ Detailed studies of production, employment, and average output have been made by the WPA National Research Project, under direction of David Weintraub and in cooperation with various Federal and State agencies. The series on agriculture, entitled Studies of Changing Techniques and Employment in Agriculture, under direction of John A. Hopkins, includes reports on each of the crops mentioned above (Reports No. A-1, A-4, A-5, A-7, and A-10). These reports describe the serious difficulties encountered in making estimates over a period of years even in the limited fields covered by the reports. They also describe the sources and methods used and the limitations of the estimates.

⁴ The average of the earlier series of years is compared to the average of the later series for the purpose of avoiding the accidental effects of abnormalities such as exceptional weather conditions in any one year. The net result, however, is to underestimate the change in productivity from the beginning to the end of the period studied, as, for instance, from 1909 to 1936 in the case of wheat.

⁵ Estimates of average output in the production of potatoes are limited to selected areas in particular States.

⁶ These figures must be viewed as approximations, not as definitive measurements, but the information from which they are derived is adequate for their use as indications of the trends.

mentioned, the reductions in labor required per unit of output were as follows: Potatoes, 1909-13 to 1934-36, 19 percent; cotton, 1907-11 to 1933-36, 20 percent; sugar beets, 1913-17 to 1933-36, 22 percent; oats, 1909-13 to 1934-36, 36 percent; and wheat, 1909-13 to 1934-36, 54 percent. Estimates made for the principal agricultural areas indicate a wide range of labor requirements per unit in different sections of the country (table 2).

TABLE 2.—Labor required per unit of output in producing specified farm commodities, 1909 to 1936 ¹

[Index numbers: Average, 1927-31=100 ²]

Commodity and period	Unit of production	Man-hours per unit produced in—					
		United States		Area of smallest labor requirements in latest period		Area of greatest labor requirements in latest period	
		Number	Index	Number	Index	Number	Index
				Kansas and Nebraska		South Carolina, Alabama, and Georgia	
<i>Corn</i>	Bushel						
1909-13	1.09	117	0.67	149	3.10	97
1917-21	1.02	110	.54	120	2.85	89
1927-3193	100	.45	100	3.20	100
1932-36 ³90	97	.44	98	3.15	98
				California			
<i>Wheat</i>	do.						
1909-1389	193	0.75	417	1.87	110
1917-2177	167	.53	294	2.06	121
1927-3146	100	.18	100	1.70	100
1934-36 ³41	89	.18	100	1.70	100
						Louisiana, Arkansas, and Mississippi	
<i>Oats</i>	do.						
1909-1342	145	.40	364	1.01	116
1917-2135	121	.24	218	.92	106
1927-3129	100	.11	100	.87	100
1934-36 ³27	93	.11	100	.84	97
				New Mexico, Arizona, and California		South Carolina, Alabama, and Georgia	
<i>Cotton</i>	Bale						
1907-11	271	114	163	108	299	106
1917-21	275	116	216	143	314	111
1927-31	238	100	151	100	282	100
1933-36	218	92	126	83	253	90
				New Jersey and Virginia		Minnesota, Wisconsin, and Michigan	
<i>Potatoes</i> ⁴	Bushel						
1909-1379	120	0.70	143	0.74	100
1917-2180	121	.69	141	.78	105
1927-3166	100	.49	100	.74	100
1934-3664	97	.48	98	.78	105
				California		Michigan	
<i>Sugar beets</i>	Ton						
1913-17	11.2	127	9.3	141	16.6	125
1920-24	11.4	130	9.7	147	14.1	106
1928-32	8.8	100	6.6	100	13.3	100
1933-36	8.7	99	5.6	85	12.6	95

¹ Data are from WPA National Research Project, Reports No. A-1 (sugar beets), A-4 (potatoes), A-5 (corn), A-7 (cotton), and A-10 (wheat and oats).

² Except for sugar beets, the base period for which is 1928-32.

³ Adjusted to allow for effects of drought and agricultural adjustment program. See WPA National Research Project, Report No. A-5, p. 120, and Report No. A-10, pp. 95, 98.

⁴ Limited to selected areas in 8 States.

Summary of Technological Changes

The mechanization of farming has been perhaps the most obvious cause of reductions in the amount of labor required for a given quantity of farm produce. Some of the principal improvements have required no change in the age-old forms of power. Thus, the improved horse-drawn planters, cultivators, and combines merely supplemented human power by an increased use of animal power. More recently, the most notable changes have been connected with new forms of power. Rural electrification and the internal-combustion engine have revolutionized and are continuing to revolutionize agricultural methods.⁷

Important changes affecting agriculture, directly and indirectly, may be summarized under the general term "engineering." These changes include drainage projects, irrigation, better farm buildings, and improved facilities for storage, refrigeration, canning, and transportation. Other outstanding technological changes have been in the field of plant breeding and improvement. In all the major crops, varieties have been developed that are more productive or more resistant to pests, drought, or other adverse conditions. Changes in animal technology have included the improvement of breeds, the control of diseases, and the development of scientific feeding and marketing. In many sections there has been a progressive adaptation of crops to different kinds of soils and to the needs of soil conservation. The conservation of soil has been promoted by the development of chemical fertilizers and by the public study and encouragement of the scientific use of land and control of erosion.

One major technological change, namely, the increase in the use of tractors, can be traced briefly in statistical terms. The estimated numbers of tractors on farms in 1910 was only 10,000, and the estimated number of horses and mules was 24,211,000. In 1920, the number of tractors was less than a quarter of a million, and the number of horses and mules was 25,742,000—approximately a million and a half more than in 1910. In 1930, there were about 920,000 tractors, almost 4 times as many as in 1920, whereas the number of horses and mules had fallen 26 percent. There was a continuous decline after 1918 in the number of horses and mules, the number in 1938 being 19 percent less than in 1930. In contrast, the number of tractors continued to increase, the number in 1936 being 36 percent larger than in 1930. Particularly significant is the rapid increase after 1936, the rise in the next 2 years alone being 22 percent. Figures of motor trucks used on farms, available for the years 1920 and 1930, show a rise during the 10 years from 139,000 to more than 900,000. Recent types of tractors have been increasingly adaptable to a variety of uses, and this has not only extended the area of mechanization but has also reduced the overhead from nonuse. Labor requirements have been greatly reduced by the increase in the speed of tractors. Recent increases in tractors on farms

⁷ For a convenient summary of technological changes in agriculture, see U. S. National Resources Committee, *Technological Trends and National Policy*, Washington, 1937: Section on agriculture, pp. 97-144. Detailed accounts of technological changes in the more important branches of agriculture are contained in the several volumes of the WPA National Research Project, *Studies of Changing Techniques and Employment in Agriculture*, previously mentioned.

have had additional significance because the largest increases have occurred in areas of comparatively slight mechanization.⁸

Forces Offsetting Effects of Improved Technology

Reductions in labor requirements in agriculture were brought about in spite of such retarding forces as soil erosion, adverse weather conditions, the spread of diseases and pests, and the recent increase of subsistence farming. Earlier in American history the trend of agriculture was away from subsistence farming toward farming for markets. This trend was a result of expanding demand, improvement of transportation facilities, and the general reduction of production costs. More recently, and especially after 1929, the trend was reversed. Even in 1929, about half the farms in the United States produced only about one-tenth of marketed farm commodities. Between 1930 and 1935, the number of impoverished small farms increased about 500,000.⁹

The amount of labor required for producing a bushel of wheat, a bale of cotton, or other unit of output, has been greatly reduced, but improved methods have been adopted by a comparatively small proportion of farmers. Vast reductions of labor are possible by the more general adoption of existing techniques as well as by the further improvement of methods. Hardly less important potentially in the saving of labor is the concentration of production in areas best adapted to the several types of farm commodities. The areas where improved methods and scientific land use prevail are in most cases adequate for meeting the market demands for major farm commodities, and the concentration of production in these areas would require a comparatively small proportion of the workers actually engaged in their production.

Limitations on Demand for Farm Products

Technological changes have vastly reduced the labor required for a given quantity of farm produce. At the same time, economic conditions in the United States and in world markets have tended to reduce the demand for American farm products.

There is no adequate measure of demand for American farm products, either in the domestic markets or in world markets. A comparatively significant measure of changes in domestic demand is the index of industrial pay rolls, for a relatively large and constant proportion of the wages of industrial workers goes to the purchase of such basic articles as food and clothing coming directly from farms or undergoing comparatively slight processing. In those industries in which wage payments are distinguishable from salaries, wages in 1932 were less than half of wages in 1929, 25 percent lower in 1936 than

⁸ For statistics of tractors on farms, see WPA National Research Project, Report No. A-9: Changes in Farm Power and Equipment; Tractors, Trucks, and Automobiles, by Eugene G. McKibben and R. Austin Griffin; also Texas Agricultural Experiment Station, Progress Report No. 579: The Social Effects of Recent Trends in Mechanization of Agriculture, by C. Horace Hamilton, College Station, Tex., 1938.

⁹ U. S. Department of Agriculture. Report of the Secretary of Agriculture, 1938, p. 57. Washington, 1938.

in 1929, and more than 30 percent lower in 1938 than in 1929.¹⁰ The index of factory pay rolls as currently published is based on the average for the years 1923 to 1925. The total in 1929 was 10 percent above the 1923-25 level; in 1932, 53 percent below; in 1936, 14 percent below; and in 1938, 22 percent below the 1923-25 average. On a per capita basis, these percentages would be smaller because of the growth of population. The figures make no allowance for price changes. The comparatively large declines in the prices of farm commodities increased the purchasing power of nonfarm income in terms of farm products and thereby aided in sustaining the volume of demand for these products, but the lack of balance in the price system tended toward inequality in the economic status of the farm population.

The demand for American farm products in other countries has fluctuated widely, with a general tendency toward contraction. In 1938 the total volume of farm commodities exported was only about four-fifths of the 1910-14 average, and in the same year the quantity of exported cotton, the principal American farm commodity entering into world markets, was only about seven-tenths as large as in 1910-14. During the 5 years ending in 1929, exported farm products required the use of more than 70,000,000 acres, but since then the amount of land required has ranged from 20,000,000 to 50,000,000 acres.¹¹

Farm Labor and Nonagricultural Jobs

The declining amount of labor required for a given output and the contraction of market demands have resulted in a great reduction in the number of workers on farms. The estimated average number of farm workers in 1909 was 12,209,000, and in 1938, 10,745,000—a reduction of about 12 percent. In contrast, the total population of the country increased in the meantime about 44 percent. Even these figures do not fully indicate the decline in the demand for farm labor because recent years have witnessed a revival of subsistence farming and an increase of underemployment on farms.¹² The effects on farm workers of changes in the demands for farm labor were mitigated historically by the expansion of demand for labor in nonagricultural employments. Special circumstances during the first two decades of the period covered by this article tended to maintain the traditional balance by the shifting of workers from farming to nonagricultural pursuits.

The changes in nonagricultural employment after 1929 indicate the gravity of the problem of transferring farm workers to other employments. The estimated average number of nonagricultural workers, including officials, proprietors, and self-employed persons, was 36,160,000 in 1929, 35,066,000 in 1937 (the largest number after 1929), and 32,747,000 in 1938. If nonagricultural employment had followed the trend of nonfarm population, the number employed in 1938 would

¹⁰ U. S. Department of Commerce. Survey of Current Business, June 1939, pp. 10-16: National Income in 1938 at 64 Billion Dollars, by Robert R. Nathan.

¹¹ Statistics relating to the foreign demand for American farm products are from the Statistical Abstract of the United States, 1938, pp. 622-623 (U. S. Department of Commerce, Washington, 1939), and the Report of the Secretary of Agriculture, 1938, p. 4 (U. S. Department of Agriculture, Washington, 1938).

¹² See Farm Employment, 1909 to 1938, in Monthly Labor Review, June 1939.

have been 39,197,000 instead of 32,747,000. The difference between these two numbers measures roughly the gap in nonagricultural employment opportunities as compared to 1929, and there was much unemployment and especially underemployment even in 1929.

Farm-Labor Problems and Public Policy

The contraction of demand for farm products, the reduction of the amount of labor required for a given quantity of farm produce, and the smaller number of employment opportunities outside of agriculture combined to create an extremely grave situation for farm labor. This situation explains the recent revival of subsistence farming. The Bureau of the Census in the 1935 Census of Agriculture reported that 1,995,000 persons moved to farms between 1930 and 1935 and that on January 1, 1935, 1 out of every 16 persons living on farms had lived elsewhere 5 years earlier. This farmward movement was largest in depressed areas and regions of subsistence farming. The curtailment of demand for farm products and the sharp reductions of the prices obtainable also caused a large increase in farming primarily on a subsistence basis among farmers already on the land. Recent years have witnessed a lowering of the status of many workers on farms. The equities of farm owners declined. There was an increase of tenancy, and, in addition, many tenant farmers were forced into the status of hired workers.¹³



Agriculture: Labor Productivity in the Growing of Corn

The number of hours per acre required in the production of corn declined from an average of 28.7 during the period 1909-13 to an average of 22.5 during the period 1932-36, according to a study by the Works Progress Administration.¹⁴ The decline in hours required per 100 bushels was from 109 to 90. The total labor used in the production of corn declined during the same interval from 2,898,000,000 to 2,276,000,000 man-hours per year. Assuming about 3,000 man-hours per year per worker, the decline in equivalent full-time employment was more than 200,000 workers, although a small part of this decline was due to a slight reduction in the average annual amount of corn produced.

Detailed estimates of the acreage in corn, the yield per acre, the hours required per acre, the hours per 100 bushels, and the total labor requirements, in the principal corn-growing areas of the United States

¹³Articles bearing on this subject in the Monthly Labor Review include the articles in the June and July 1939 issues and 2 articles in the March and April 1938 issues (reprinted as Serial No. R. 737), on *Power Farming and Labor Displacement in the Cotton Belt, 1937*, by Paul S. Taylor. See also *Journal of Land and Public Utility Economics*, May 1939, pp. 235-237; *Recent Changes in the Status of Laborers and Tenants on Arkansas Plantations*, by Glenn T. Barton of the Agricultural Adjustment Administration and J. G. McNeely of the Arkansas Agricultural Experimental Station, and *Plantation Operations of Landlords and Tenants in Arkansas*, by H. W. Blalock, University of Arkansas, College of Agriculture, Agricultural Experiment Station, Fayetteville, 1937.

¹⁴U. S. Works Progress Administration. National Research Project. Report No. A-5: *Changes in Technology and Labor Requirements in Crop Production: Corn*, by Loring K. Macy, Lloyd E. Arnold, and Eugene G. McKibben. A more extended discussion of this report was given in the Monthly Labor Review, September 1938 (p. 583).

from 1909 to 1936, reveal wide regional variations. There was, however, a Nation-wide trend over this period in the direction of a reduction of the hours required per acre and, with the exception of the eastern cotton area, a trend in the direction of fewer hours required per 100 bushels, as shown in the following table.

Total labor used in producing corn in major areas of the United States, 1909-36

Item	Year	United States	Corn area	Winter wheat area	Spring wheat area	West-ern dairy area	East-ern dairy area	Mid-dle east-ern area	East-ern cotton area	Delta cotton area	West-ern cotton area
Acres in corn ¹ (millions)	1909-13	101.0	28.6	15.5	2.8	5.7	2.4	12.3	7.8	6.3	10.3
	1917-21	103.1	28.8	13.4	4.3	7.2	2.5	12.6	9.6	6.9	8.1
	1927-31	101.0	28.4	16.2	6.1	7.8	2.0	10.3	7.9	5.2	7.8
Yield per acre ¹ (bushels)	1909-13	26.0	38.2	19.2	23.5	33.8	36.8	22.1	13.4	17.3	16.0
	1917-21	27.2	38.5	21.8	27.0	33.6	41.7	24.0	14.0	16.7	17.1
	1927-31	24.7	34.9	22.5	18.4	29.8	36.0	21.0	12.0	15.3	17.1
Hours per acre ²	1909-13	28.7	22.0	12.8	13.4	31.7	59.4	46.6	41.3	42.5	28.8
	1917-21	27.6	20.6	11.8	13.0	28.7	54.6	45.3	40.2	41.1	26.4
	1927-31	23.3	17.9	10.3	10.7	24.0	47.8	43.3	38.6	38.5	22.8
	1932-36 ³	22.5	16.9	10.1	9.8	23.2	46.2	43.0	37.9	37.6	21.4
Hours per 100 bushels.....	1909-13	109	57	67	56	95	160	210	310	246	179
	1917-21	102	54	54	48	86	131	190	285	247	153
	1927-31	91	52	45	58	82	134	208	320	250	132
	1932-36 ⁴	90	49	44	53	79	129	206	315	244	124
Total labor (millions of hours).....	1909-13	2,898	629	198	38	181	143	573	322	268	297
	1917-21	2,842	593	158	56	207	136	571	386	284	214
	1927-31	2,354	508	167	65	187	96	446	305	200	178
	1932-36 ³	2,276	480	164	60	181	92	443	299	196	167

¹ 5-year averages of acreages and yields were computed from detailed data collected by U. S. Bureau of Agricultural Economics.

² Estimates based on former labor-requirement studies and the National Research Project Farm Survey data. More detailed data for areas and for principal corn-growing States are shown in appendixes of the study here summarized.

³ Based on 1927-31 acreage, to eliminate as far as possible the effect of drought and A. A. A.

⁴ Based on 1927-31 average yield, to eliminate effect of drought during the years 1932-36.

The principal factors that have caused changes in labor requirements are those connected with the mechanization of planting, cultivating, and harvesting corn. Labor requirements per acre have been lowered to some extent by shifts in the locations of the country's corn acreage, notably an increase in corn acreage in spring wheat and range areas. In these areas, corn has become increasingly important, partly as a result of the development of varieties of corn that mature in a short season and in a cool climate. The development of new varieties of corn is an illustration of another type of factor affecting labor requirements. These factors include not only the breeding of improved varieties but also the development of more efficient methods of soil management and the introduction of means of combating corn diseases and pests. These latter changes have been perhaps mainly significant in preventing deterioration of corn varieties and of soils and in counteracting the effects of diseases and pests. But greater interest in improved soil management and in better varieties of seed corn afford indications of a probable reduction in labor requirements in the future. Another potential factor of particular importance is the mechanization of corn harvesting. A two-row picker-husker machine now in use makes possible the elimination of more than 50 percent of the

present harvest labor requirements per acre in the Corn Belt. In 1937 manufacturers were unable to meet in full the demands of farmers for this type of harvesting equipment.

The progress of technological improvements and of labor productivity in the growing of corn has contributed to the general reduction in the amount of agricultural employment, particularly in the case of workers who depend largely on seasonal types of work. The gravity of the problem for nonagricultural as well as agricultural workers lies mainly in the fact that the workers displaced from corn growing are added to the already large labor reserves, industrial as well as agricultural, while at the same time a large expansion of total production and employment would be required to meet even the moderate needs of both agricultural and industrial workers.



Agriculture: Labor Productivity and Work Opportunities in Cotton Growing

The average production of cotton in the United States from 1917 to 1921 was substantially the same as the average from 1933 to 1936, but the amount of labor required fell substantially. The estimated amount of labor required during 1917-21 averaged 3,089,000,000 man-hours, and during 1933-36, only 2,489,000,000 man-hours. When the development of competing materials and the rise in the production of cotton in other parts of the world are taken into account, there is an uncertain basis for an expansion of demand for American cotton, while, at the same time, there are readily available the means for extensive further reductions in the amount of labor required to produce a given amount of cotton. These are some of the facts emphasized in a study by the Works Progress Administration.¹

During the past 30 years there has been a significant shift in the geographical distribution of cotton production. The acreage in the eastern cotton-producing areas was almost cut in half; the Delta area substantially maintained its acreage in the face of some reduction in acreage for the country as a whole; and the Western and irrigated areas gained significantly. There were important changes also in man-hours required per acre, in total man-hours, in the amount of cotton produced, and in man-hours per bale of cotton, both in the United States as a whole and in the principal cotton-growing areas.

Various improved techniques, if put into general use, would have reduced the labor requirements (or, inversely, increased the labor productivity) to a much greater extent. Why have these techniques not been more widely utilized? The principal explanation lies in the fact that there are few other forms of employment available to most of the farm population that has traditionally been employed in the production of cotton, while, at the same time, most of this farm population has found it necessary to live at so low a level of income as to make impossible the introduction of machinery or other improved techniques.

¹U. S. Works Progress Administration. National Research Project. Reemployment Opportunities and Recent Changes in Industrial Techniques, Report No. A-7: Changes in Technology and Labor Requirements in Crop Production: Cotton, by William C. Holley and Lloyd E. Arnold. Washington, 1938. A more extended discussion of this report was given in the Monthly Labor Review for January 1939 (p. 61).

*Estimated average annual cotton acreage, production, and labor required in the United States and in major cotton-producing areas, 1907-36*¹

Item	Year	United States ²	Major cotton-producing areas				
			Eastern	Middle Eastern	Delta	Western	Irrigated ³
Acres harvested (in thousands)-----	1907-11	31,759	10,483	2,041	6,480	12,374	4
	1917-21	32,655	9,282	2,204	6,489	14,208	201
	1927-31	41,031	8,598	2,608	8,927	19,875	532
	1933-36	28,410	5,800	1,836	6,364	13,443	513
Man-hours required per acre ⁴ -----	1907-11	105	130	139	122	70	122
	1917-21	95	120	136	114	62	109
	1927-31	85	113	132	110	54	118
	1933-36	88	123	130	116	50	127
Man-hours required on total acreage (in millions)-----	1907-11	3,343	1,358	285	793	863	(⁵)
	1917-21	3,089	1,115	301	738	883	22
	1927-31	3,493	974	345	982	1,072	63
	1933-36	2,489	716	238	739	673	65
Cotton produced (in thousands of bales)-----	1907-11	12,332	4,536	1,072	2,597	3,997	3
	1917-21	11,219	3,550	1,132	2,369	3,967	102
	1927-31	14,658	3,452	1,291	3,615	5,651	416
	1933-36	11,432	2,832	1,055	2,955	3,791	515
Man-hours used per bale ⁶ -----	1907-11	271	299	266	305	216	163
	1917-21	275	314	266	312	223	216
	1927-31	238	282	267	272	190	151
	1933-36	218	253	226	250	178	126

¹ Based on data from National Research Project Farm Survey, 1936, and from earlier studies conducted by the U. S. Department of Agriculture and by State experiment stations. Labor requirements for marketing (when cotton was not sold at gin) are excluded from the estimates.

² Includes all cotton-producing States.

³ Includes New Mexico, Arizona, and California.

⁴ Hours are per acre harvested, but include estimated hours spent on abandoned acreage.

⁵ Less than 500,000.

⁶ 500-pound bale, gross weight (includes bagging and ties and contains about 478 pounds of lint). Labor on abandoned acreage is included.



Manufacturing: Employment and Production, 1919 to 1936

Every Census of Manufactures from 1849 to 1919 showed an increase in the number of wage earners employed in manufacturing industries. During the next 10 years there were sharp fluctuations, and in 1929 the number of wage earners was somewhat smaller than in 1919, although production had increased more than 40 percent. These general trends for manufacturing as a whole are illustrated by a detailed study of 59 manufacturing industries.¹ In these 59 industries the amount of production was at least 50 percent larger in 1929 than in 1919 and the amount of employment was approximately the same in the 2 years. In 1936 the amount produced in the 59 industries was about a tenth less than in 1929 and the amount of employment in total man-hours had declined more than a fourth.

¹ U. S. Works Progress Administration, National Research Project, Studies of the Labor Supply, Productivity, and Production, Report No. S-1, Pts. 1-3: Production, Employment and Productivity in 59 Manufacturing Industries, 1919-36, by Harry Magdoff, Irving H. Siegel, and Milton B. Davis. Washington, 1939. A more extended discussion of this report was given in the Monthly Labor Review, December 1939 (p. 1397).

Changes in 59 Manufacturing Industries Combined

The National Research Project study of 59 manufacturing industries included estimates of production and labor productivity in the separate industries and in the 59 industries combined. The volume of production in the combined industries can be expressed only in the form of index numbers showing the extent of change. Two estimates of production and productivity in the 59 industries combined were made by the use of two different formulas. Each formula was designed to answer questions of a different kind, and the two methods give somewhat different estimates of aggregate production and average output. (See table 1.) The method that gives the smaller increase in man-hour output over the entire period from 1919 to 1936 indicates an increase of 79 percent. The 59 industries together, in 1929, employed more than half of all manufacturing wage earners and accounted for more than half of the value of manufactured products. This extensive and varied coverage indicates that the estimates are approximately representative of all manufacturing industries.

TABLE 1.—Indexes of employment, man-hours, production, and productivity in 59 manufacturing industries combined, 1919 to 1936

[1929=100]

Year	Average number of wage earners	Total man-hours	Man-hour output in terms of—		Production corresponding to man-hour output with—	
			Base-year composite of products	Changing composite of products	Base-year composite of products ¹	Changing composite of products ²
1919.....	98.4	99.9	63.5	69.1	63.4	69.0
1920.....	100.5	100.5	67.0	72.0	67.3	72.4
1921.....	78.8	75.9	71.5	77.2	54.3	58.6
1922.....	91.7	91.5	76.9	80.1	70.4	73.3
1923.....	100.7	100.7	81.1	82.8	81.7	83.4
1924.....	94.8	92.1	84.0	85.6	77.4	78.8
1925.....	98.2	97.5	88.3	89.3	86.1	87.1
1926.....	98.8	98.7	91.4	91.9	90.2	90.7
1927.....	95.6	95.7	92.5	93.2	88.5	89.2
1928.....	96.3	96.0	96.9	97.2	93.0	93.3
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	86.3	80.1	100.9	101.1	80.8	81.0
1931.....	73.2	65.2	104.3	106.3	68.0	69.3
1932.....	64.4	51.8	103.1	107.7	53.4	55.8
1933.....	72.6	57.7	107.6	113.5	62.1	65.5
1934.....	84.0	60.5	110.9	113.6	67.1	68.7
1935.....	86.9	65.7	118.6	122.4	77.9	80.4
1936.....	90.9	73.3	121.8	123.9	89.3	90.8

¹ Equivalent to a harmonic mean of the indexes of the several products with changing man-hour weights.

² Equivalent to an arithmetic mean of the indexes of the several products with base-year man-hour weights.

One of the two methods of analyzing production and labor productivity assumes a base-year composition of production and the other a changing composition. It is held that the choice of method should be determined in part by the nature of the questions to which answers are desired, and in part by the economic characteristics of the period considered. The base-year composite, it is stated, has greater significance when business conditions are comparatively stable than when periods

of relatively rapid changes are considered. But even if there are marked changes in the composition and volume of production, analysis by use of the base-year composite is called for if it is assumed that the trend has been reversed and that production again approaches the base-year composition and volume.

Labor Productivity in Separate Manufacturing Industries

Changes in average man-hour output are affected by the volume of production. In the rayon industry, for example, between 1923 and 1935 there was more than a sevenfold increase in production. Such a large expansion of an industry is naturally accompanied by changes in methods of production that would not have been possible without an increase in production. This is itself no doubt a significant fact, but it entails no problems of labor displacement or unemployment, these being associated with industries of declining or stable production and rising output per man-hour. It is conceivable that a reduction of total output might tend to increase the output per man-hour. This might come about, for example, by the elimination of less productive plants. Indirectly, a decline in production may stimulate efforts to reduce labor costs by mechanization or by changes in management.

A fall in the level of production, however, is ordinarily accompanied by increased overhead and loss of many of the efficiencies of large-scale and mass production. In the iron and steel industry, for example, average man-hour output tends to vary inversely with the percentage of capacity operation. A study published in 1935² revealed a change in man-hours of manufacturing labor running from 34.4 hours per ton of steel at 55 to 60 percent of total capacity to 46.5 hours per ton at 20 to 25 percent of capacity.

The effects of an increased volume of production on output per man-hour may be eliminated by limiting the comparisons to years when there were no significant differences in volume of production or when there were declines as compared to the base period. Such comparisons are possible in many of the 59 industries surveyed in the National Research Project study here reviewed. In addition to these limitations, the comparisons here made (table 2) are restricted to census years because of the greater degree of adequacy of the information on which the comparisons are based. Most of the comparisons are for the years 1919, 1929, and 1935, but in some instances the limitations of available data call for comparisons between other years, as for example, between 1923 and 1933. The same base year, namely, 1929, is used for all the comparisons.

² Monthly Labor Review, May 1935: Man-Hours of Labor Per Unit of Output in Steel Manufacture, by Bernard H. Topkis and H. O. Rogers. (Reprinted as Serial No. R. 240.)

TABLE 2.—Indexes of production and output per man-hour in selected¹ manufacturing industries, 1919 to 1935

Industry	Production			Output per man-hour		
	1919 ²	1929	1935 ³	1919 ²	1929	1935 ³
Iron and steel (blast furnaces, steel works, and rolling mills)	61.6	100.0	64.1	51.0	100.0	108.5
Nonferrous metals (primary smelting and refineries)	63.3	100.0	51.3	51.0	100.0	85.1
Furniture	55.1	100.0	56.5	72.7	100.0	100.9
Planing-mill products	77.1	100.0	45.2	72.9	100.0	97.4
Lumber and timber products	96.0	100.0	53.2	95.8	100.0	118.8
Clay products (other than pottery) and nonclay refractories	67.1	100.0	35.9	79.8	100.0	95.5
Cement	47.9	100.0	44.6	69.2	100.0	112.9
Cotton goods	85.2	100.0	76.7	85.0	100.0	122.1
Leather	104.3	100.0	107.4	71.3	100.0	131.3
Flour and other grain-mill products	110.9	100.0	81.9	64.3	100.0	104.3
Slaughtering and meat packing	91.1	100.0	82.7	74.3	100.0	105.8
Cane-sugar refining	82.2	100.0	82.7	63.6	100.0	133.0
Cigars	112.3	100.0	70.3	81.4	100.0	150.3
Chewing and smoking tobacco and snuff	111.2	100.0	89.9	82.9	100.0	113.8
Fertilizers	87.5	100.0	69.3	69.2	100.0	119.9
Manufactured gas	76.1	100.0	72.2	76.9	100.0	124.9
Woolen and worsted goods	128.2	100.0	114.0	94.6	100.0	135.9
Ice cream	80.4	100.0	81.3	77.0	100.0	128.0
Rubber goods, other than tires and inner tubes	90.2	100.0	77.3	95.8	100.0	122.3
Manufactured ice	76.5	100.0	71.6	92.6	100.0	141.5
Motor vehicles	64.3	100.0	40.9	69.8	100.0	100.0
Glass	88.4	100.0	75.6	86.0	100.0	148.5
Silk and rayon goods	67.5	100.0	71.5	72.3	100.0	109.0
Boots and shoes	91.6	100.0	94.1	81.0	100.0	113.1
Bread and other bakery products	78.3	100.0	79.9	97.4	100.0	101.0
Paints and varnishes	68.3	100.0	60.4	90.8	100.0	98.5
Pulp	87.9	100.0	88.4	85.5	100.0	121.3
Petroleum refining	83.4	100.0	86.8	95.1	100.0	133.5
Confectionery	99.8	100.0	98.6	100.4	100.0	165.7
Paper	90.2	100.0	92.4	97.0	100.0	116.1
Newspapers and periodicals	90.2	100.0	87.8	97.9	100.0	119.1
Rubber tires and inner tubes	84.4	100.0	80.8	89.0	100.0	185.8

¹ The industries selected had a volume of production in 1935 (or 1933) approximately equal to or less than the volume of production in the initial year of the comparison (see comment in text).

² Figures for the 6 industries from "motor vehicles" through "paints and varnishes" are for 1923; figures for the 6 industries from "pulp" through "rubber tires and inner tubes" are for 1927.

³ Figures for the 8 industries from "motor vehicles" through "petroleum refining" are for 1933.

In all of the industries that qualify under these various restrictions, the output per man-hour in the final year of comparison was significantly larger than the man-hour output in the initial year of the comparison. In bread and other bakery products, which shows a relatively slight rise in labor productivity, the comparison is between 1923 and 1933. Production in this industry was only 2.0 percent greater in 1933 than in 1923, and man-hour output was only 3.7 percent greater. This industry is widely dispersed and composed of an unusually large number of local units and is one of the older and more stable industries. These circumstances may account in part for the relatively slight degree of technological change and of change in labor productivity. This industry is also an illustration of a field of production with a great variety of types of output. The available information about the products of the industry, and also the amount of labor used in making the several products, is so limited that the indexes of production, employment, and average output in this industry must be viewed as exceptionally rough approximations. Some of the other industries interpose similar difficulties.

In all the industries except confectionery there were increases in man-hour output between the initial year of the comparison and 1929. The comparison for confectionery does not go back of 1927 and man-hour output was substantially the same in both 1927 and 1929. This industry, like bread and other bakery products, is so

varied and localized as to put serious obstacles in the way of computing precise indexes. In all of the industries with 1935 as the final year of comparison there were increases over 1929 in man-hour output, except in nonferrous metals, planing-mill products, and clay products. In these industries, the declines in man-hour output were accompanied by extreme reductions in the total output. The output of nonferrous metals was hardly more than half of that of 1929, and the volumes of production in the planing-mill and clay-products industries in 1935 were less than half of the outputs of 1929.



Beet-Sugar Industry: Productivity and Employment

Between 1917 and 1935 the productivity of labor in the manufacture of beet sugar doubled. No major changes in production methods occurred during this period, but there were numerous minor improvements. Among these was an increased application of electricity that made possible the use of instruments and devices for facilitating precise control of chemical processes and mechanization of handling operations. Better machine designing and improved modes of coordinating mechanical operations account for a part of the increased productivity. There were also advances in knowledge of chemistry in application to this industry. The increased volume of production tended to prevent the displacement of labor. These are some of the findings of a study by the Works Progress Administration.¹

Beet-sugar production was not developed on a large scale until after 1890. The growth of the industry has been almost continuous and has been affected only to a slight extent by business fluctuations. During the depression beginning in 1929, production increased sharply, and there was a marked decline after general business activity began to improve. The growth of the industry has been closely connected with the tariff and quota policies of the Government.

An estimate was made of the number of persons dependent on the beet-sugar industry for a part of their income from employment in 1933. In that year the number employed in factories was about 30,000. There were about 70,000 sugar-beet growers and about 159,000 hired laborers in the beet fields. It is estimated that the number who found employment in the production of fuel used in beet-sugar factories was about 2,000, and the number required for making machinery for these factories, about 1,000, while several thousand more found some employment in transportation and in the wholesale and retail distribution of sugar. The estimated total for 1933, a year of peak production, was between 262,000 and 270,000.

The most significant feature of employment in this industry, however, is its seasonal character. Most of the hired workers in the growing of beets have work for only a few weeks in the year and most of the workers in the factories in 1933 averaged not more than 72 days of work. The number of "campaign" days of factory production between 1917 and 1935 ranged from 89.6 in 1920 to 57.7 in 1934.

¹ U. S. Works Progress Administration in cooperation with National Bureau of Economic Research. National Research Project. Studies of Productivity and Employment in Selected Industries. Report No. N-1: Productivity and Employment in Selected Industries: Beet Sugar, by Raymond K. Adamson and Miriam E. West, Washington, 1938. A more extended discussion of this report was given in the Monthly Labor Review for March 1939 (p. 564).

Factory production is mainly during the last 3 months of the year, and employment is highly concentrated during these months.

As a result of the highly seasonal character of the industry, both in the growing of beets and in the production of sugar, there is an exceptional amount of part-time, casual, and transient employment. The number of workers in factories who have regular employment ranges between 3,000 and 4,000 while more than 20,000 have employment ranging around 70 days and an average income for the year from this industry of about \$225. Few of the large number of laborers employed in the growing of beets (about 159,000 in 1933) have more than 90 days' work in the beet fields, and very few find work in the beet-sugar factories after the harvesting season. Most of them are casual or transient workers.

The volume of production may be estimated, from the point of view of the growing of sugar beets, in terms of tons of beets sliced, and from the point of view of final output, in terms of tons of sugar produced. Production was at its peak in 1933, when 10,778,000 short tons of beets were sliced and 1,636,000 short tons of beet sugar were produced.

In a group of factories for which data were available for the period 1917-35, the number of man-hours per unit of product during the "campaign" period of production was almost continuously reduced. In 1917 the number of man-hours per ton of beets sliced was 2.78, and in 1935, 1.35. In 1917 the number of man-hours per 100-pound bag of sugar produced was 1.02, and in 1935, 0.44.

Between 1917 and 1935, the productivity of labor (the average output per man-hour, which is the amount of labor per unit of output expressed inversely) increased about 106 percent in terms of tons of beets sliced, and about 132 percent in terms of sugar produced. This increase, as previously stated, was substantially a result of a large number of relatively minor technological changes. A notable characteristic of many industries in recent years has been the introduction of technological changes that tend to save capital as well as labor. A rough indication of this tendency in the beet-sugar industry is the fact that the estimated capital investment in beet-sugar factories in 1918 was \$224,585,000, and in 1935, only \$208,076,000. During this period there was, however, a considerable decline in prices.

"Campaign" ¹ man-hours per unit of product in 31 identical beet-sugar factories, 1917-35

Year	Number of factories operating	Man-hours per—		Year	Number of factories operating	Man-hours per—	
		Ton of beets sliced	100-pound bag of sugar produced			Ton of beets sliced	100-pound bag of sugar produced
1917.....	30	2.78	1.02	1927.....	29	1.65	0.57
1918.....	30	3.11	1.09	1928.....	30	1.62	.51
1919.....	29	2.76	1.13	1929.....	30	1.55	.55
1920.....	31	2.61	.93	1930.....	29	1.40	.51
1921.....	30	2.10	.73	1931.....	26	1.35	.45
1922.....	29	2.08	.76	1932.....	29	1.46	.47
1923.....	31	2.05	.76	1933.....	30	1.31	.43
1924.....	30	1.95	.64	1934.....	26	1.42	.45
1925.....	30	2.00	.74	1935.....	29	1.35	.44
1926.....	26	1.70	.63				

¹ Period of peak-season production.

Increased production tended to maintain employment, while increased productivity (or reduced labor requirements per unit of output) tended to curtail employment. The net result was a reduction in the amount of employment, especially in factory production, between the years 1917 and 1935. During these years, the number of tons of beet sugar produced increased about 55 percent, whereas the estimated total number of yearly man-hours in all branches of the industry combined fell about 17 percent, during an increase of about 25 percent in total population.



Boot and Shoe Industry: Labor Productivity ¹

From what was a highly skilled handicraft industry as late as the middle of the nineteenth century, shoemaking had become by the end of the century an industry using machinery in almost all of its many complex operations. This revolutionary transformation began with the invention of the Howe sewing machine and its adaptation to use on leather about 1851. More important, however, was the invention of the McKay sewing machine, in the early sixties, which solved the difficult problem of attaching the soles to the uppers. Following the invention and improvement in 1875 of the Goodyear welt process of attaching soles to uppers, which made it possible to produce even the more expensive shoes by machine process, a rapid development in shoe machinery occurred which affected every process and operation involved in making shoes.

By 1900 all the principal operations, with the exception of lasting, were either wholly or largely mechanized. The use of machinery greatly hastened the division of labor which had begun with the development of the factory system and brought with it a greater degree of specialization in individual processes than was possible in the shop of the owner-shoemaker. The eight tools which in the earlier days sufficed for the making of a complete shoe—the last, knife, awl, a needle or bristles, pair of pincers, hammer, lapstone, and stirrup—were supplemented by a large number of hand tools later replaced by mechanical devices or machines which in many respects imitated the performance of the hand processes. By the end of the century, the division of labor in shoemaking had become so extensive that the number of operations involved in making an average shoe was almost equal to that required at the present time.

The immediate result of the rapid introduction of machinery was a tremendous increase in the output per man-hour of the workers employed in the shoe industry. According to the thirteenth annual report of the Commissioner of Labor published in 1898, the saving in the labor time depended upon the type of shoe produced. The range in labor time saved in 1895 as compared with hand methods in 1863, just prior to the introduction of the McKay machine, was from 78 to 89 percent on men's shoes and from 85 to 92 percent on women's shoes. The machine process in 1895 required in some cases as many as 173 operations, compared with approximately 73 operations in the hand process.

¹Summary of article in *Monthly Labor Review*, February 1939 (p. 271), by Boris Stern, based upon a study made by the Bureau of Labor Statistics in cooperation with the National Research Project of the U. S. Works Progress Administration.

The introduction of machinery in the shoe industry had other effects than merely raising labor productivity. The hand-made shoe produced in a factory for mass consumption was generally a simple article rather crudely constructed and almost wholly lacking in finishing refinements. The machine could perform a better and more efficient job than the hand shoemaker. It thus made available a better-quality shoe at less cost.

The development of machinery in the shoe industry did not stop in 1895. Hand operations continued to give way to mechanical devices. Slower, cruder machines, capable of performing only one operation, were replaced by faster and more complex types. More recently there has also developed the tendency of dividing certain operations formerly performed by one machine into several, each performed by a different device.

The effects of these changes on labor productivity in the industry have not been so great as for the period between 1863 and 1895. Between 1923 and 1935 there was an increase in labor productivity in men's shoes ranging from 38 to 51 percent, depending on the grade of shoe manufactured. Machinery alone has been estimated to account for an increase of approximately 38 percent between 1900 and 1923, followed by an additional increase of 12 percent between 1923 and 1936. The extent of mechanization and machine standardization in existence in 1923,² the nature of the technology used in the industry, and the nature of the product manufactured are factors largely responsible for the slowing down in the trend toward higher man-hour productivity in the shoe industry.

In spite of the high degree of mechanization, shoe manufacturing is still in the stage of semiautomatic development. It is divided into a multiplicity of minute, variable, distinctly separate operations, with a large number of separate machines to perform these operations. In practically all cases, the machines seem to have been devised to imitate as closely as possible the motions and the operations formerly performed by the expert shoemaker at his own bench.

Lease system.—Starting with the McKay machines, which were leased by the patent owner in order to place the machines more readily, the policy of leasing shoe machinery on a royalty basis has become an accepted custom of the industry. At first a considerable number of companies produced shoe machinery, but through the process of amalgamation, machine manufacturing has gradually become concentrated in the hands of one company, which now owns or controls nearly all the important machines used in the industry. The royalty policy of leasing the machines has been preserved and with it the policy of making the machines available on equal terms to all shoe manufacturers, irrespective of size or location.³

The standardization brought about through the leasing system and the combination of machines used to produce a given type of shoe has thus tended to eliminate machinery as a significant factor in differences in labor productivity as between plants in the industry. At the

² See Bureau of Labor Statistics Bulletin No. 360: Time and Labor Costs in Manufacturing 100 Pairs of Shoes, 1923, Washington, 1924.

³ For methods and effects of the leasing system, see *United States v. United Shoe Machinery Corporation*, May 20, 1918, 247 U. S. 32; also *United States v. United Shoe Machinery Corporation*, Apr. 17, 1922, 258 U. S. 451.

same time, the concentration of machinery manufacture in one company has greatly reduced competition between different machines capable of performing the same operations. Under these conditions the development of shoe machinery has taken place chiefly in connection with the change of process rather than as an improvement upon the machine used to perform a given operation. Thus, there has been little change in the basic machinery in use in recent years; there has, however, occurred extensive development of new machines and adaptations of old machines to carry on new operations called for by style changes. It is not too much to say that machinery as such has played a small role in the last 10 or 15 years in decreasing the labor time required to produce a pair of shoes, but it has played a considerable role in making possible basic style changes without substantially affecting the labor-time requirements in manufacturing shoes.

Management.—The utilization of the same or approximately the same machinery in the shoe industry does not, however, preclude large variations in the output of these machines arising from variations in management efficiency or in the skill of individual operators. Besides, not all plants can afford to lease all the machines which have been devised to displace handwork, especially if the machines can be used only for a particular type or style of shoes. The use of such specialized machinery is economical only with a large output of shoes of a given style; and this is not true of the smaller or even the average establishment.

There are also many smaller supplementary machines and devices, not so centrally controlled as the more important shoe machines, which enable the more advanced shoe manufacturer to increase the labor productivity in his plant in competition with others. The various management or rationalization schemes, used in many plants to move the work in process more efficiently from one department to another, have also effected considerable increases in labor productivity of the departments and especially of the shoe plant as a whole.

Individual operations.—The productivity of shoe machinery is greatly affected by differences in the dexterity of individual workers and by the proportion of handling and incidental work required in connection with the operation of the machine. Often the machine is in actual use only a small proportion of the total time spent by the operator, and its comparative speed plays a small part in the productivity of the operation. The time spent by different operators on similar operations on the same grade of shoes, or by the same operator on similar operations on different styles and grades of shoes varies tremendously.

The effect on output per man-hour of style differences and of style changes should also be noted. Individual operations on a high-grade shoe may require over 50 percent more time than on a medium-grade shoe. Furthermore, some styles require operations not called for in other styles, causing considerable variations in labor-time requirements.

Labor Productivity in the Shoe Industry

Men's Shoes

Table 1 presents data on labor productivity in 23 plants specializing in the manufacture of men's shoes.

TABLE 1.—Number of pairs of men's shoes produced per man-hour, 1923 to 1936

Plant	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936 ¹
No. 1.....		0.396	0.408	0.435	0.462	0.475	0.492	0.439	0.382	0.410	0.439	0.535	0.571	0.521
No. 2.....	0.433	.449	.426	.434	.466	.474	.455	.477	.462	.503	.560	.584	.580	.597
No. 3.....	.434	.500	.567	.610	.652	.678	.703	.680	.657	.653	.650	.702	.666	.687
No. 4.....	.463	.480	.498	.518	.538	.537	.627	.607	.611	.630	.678	.637	.699	.728
No. 5.....					.658	.694	.741	.708	.653	.715	.925	.890	.870	.925
No. 6.....								.840	.779	.768	.808	.859	.915	.942
No. 7.....	.885	.949	.938	.937	.963	.944	.903	.890	.874	.770	.825	.867	.962	.907
No. 8.....								.798	.773	.858	.769	.758	.971	.892
No. 9.....								.824	.729	.768	.791	.878	.963	1.015
No. 10.....						.789	.826	.970	.985	.979	.912	.980	1.055	.943
No. 11.....	.894	.796	.816	.846	.877	.885	.921	.886	1.019	1.041	1.076	1.071	1.103	1.088
No. 12.....		.702	.783	.799	.896	.873	.868	.950	.948	.878	1.009	1.105	1.149	1.079
No. 13.....								.865	.804	.899	1.072	1.083	1.203	1.131
No. 14.....	.983	1.038	1.090	1.066	1.051	1.048	1.106	1.151	1.329	1.365	1.381	1.333	1.326	1.290
No. 15.....					1.222	1.326	1.310	1.296	1.320	1.256	1.318	1.414	1.445	1.462
No. 16.....	1.536	1.484	1.459	1.427	1.436	1.358	1.274	1.350	1.434	1.461	1.545	1.503	1.531	1.479
No. 17.....								1.513	1.744	1.636	1.653	1.698	1.652	1.605
No. 18.....					1.276	1.353	1.362	1.499	1.650	1.770	1.764	1.779	1.795	1.805
No. 19.....	1.596	1.665	1.793	1.992	1.811	1.904	1.992	2.232	2.345	1.819	1.776	1.751	1.963	1.893
No. 20.....	1.878	1.943	1.972	2.006	2.053	1.988	1.877	1.741	1.890	1.935	2.014	2.016	2.133	2.029
No. 21.....									1.825	2.000	2.165	2.272	2.376	2.380
No. 22.....										2.395	2.431	2.448	2.520	2.376
No. 23.....	1.520	1.776	1.707	1.524	1.972	2.004	2.179	2.398	2.457	2.262	2.342	2.506	2.653	2.597

¹ Averages based on data ranging from 3 to 9 months.

The figures presented reveal the large variations in labor productivity found among the plants studied and the wide range between the plants of lowest and highest man-hour output for any year.

The persistence of wide ranges in output over the entire period covered by the survey is due to the fact that the plants studied specialize in the manufacture of different grades of men's shoes, ranging in retail price from under \$3 to about \$7 a pair. On the basis of retail prices of the shoes manufactured in the plants studied, the sample of the 23 plants may be divided roughly into 3 groups:

(1) Plants producing a high-medium grade shoe, which in 1935 retailed at more than \$5 a pair.

(2) Plants producing a medium-grade shoe which in 1935 retailed at more than \$3 and less than \$5 a pair.

(3) Plants producing a low-grade shoe which in 1935 retailed at \$3 a pair or less.

Such a general classification as the above covers a wide range of variations of product within each group. Nevertheless the 23 plants of the sample fall in approximately the same relative position (but in reverse order) as when classified on the basis of their 1935 productivity. Plants 1 to 4 constitute the group manufacturing a high medium-grade shoe, plants 5 to 15 represent the medium-grade group, and the remaining 8 plants fall into the group producing a low-grade shoe. The inverse relationship between the grade of shoes manufactured

and the labor productivity in the plant does not require an elaborate explanation. More expensive shoes are made of better and more expensive materials, contain more parts, and more decorations, require more operations and handling to make a better fit, and generally demand considerably more workmanship than is the case of the lower-price shoes.

Although no two plants in the sample have the same labor productivity trend over the entire 14 years covered by the survey, the plants within each grade group appear to have followed a fairly uniform trend. This is especially true for the recent years for which data were available for more plants than during the earlier periods.

Table 2 gives the trend of labor productivity in men's shoes segregated into high-medium, medium, and low grade groups. The trend is shown in terms of percentage changes from year to year and in terms of index numbers with 1935 as a base.

TABLE 2.—Trend of labor productivity in the manufacture of men's shoes, 1923 to 1936

Year	High-medium grade		Medium grade		Low grade	
	Percent of change from year to year	Index (1935=100)	Percent of change from year to year	Index (1935=100)	Percent of change from year to year	Index (1935=100)
1923.....		66.4		70.7		72.3
1924.....	+7.5	71.4	+0.6	71.2	+5.3	76.2
1925.....	+3.8	74.1	+4.3	74.3	+0.9	76.9
1926.....	+5.0	77.8	+0.8	74.9	(1)	76.9
1927.....	+6.1	82.6	+4.3	78.1	+5.8	81.3
1928.....	+2.1	84.3	+1.7	79.4	+0.8	82.0
1929.....	+5.0	88.5	+2.1	81.1	+0.4	82.3
1930.....	-3.1	85.8	+2.9	83.5	+6.2	87.4
1931.....	-4.7	81.8	-0.4	83.1	+8.0	94.4
1932.....	+4.7	85.6	+1.5	84.4	-2.2	92.3
1933.....	+6.4	91.1	+6.5	90.0	+2.7	94.8
1934.....	+7.0	97.5	+3.5	93.0	+1.5	96.2
1935.....	+2.6	100.0	+7.5	100.0	+3.9	100.0
1936 ²	+0.3	100.3	-2.4	97.6	-2.7	97.3

¹ No change.

² Based on averages obtained from data ranging from 3 to 9 months.

Women's Shoes

Table 3 presents data on labor productivity in 20 plants specializing in women's and growing girls' shoes, expressed in pairs per man-hour.

The sample of plants making women's shoes differs in many respects from that making men's shoes. In the case of men's shoes, all the plants producing high-medium and medium grade shoes used only the Goodyear welt process of manufacture.⁴ The group manufacturing women's shoes used a number of different manufacturing proc-

⁴ Differences in process of manufacture are characterized chiefly by the method used in attaching the sole to the upper of the shoe. If a McKay or Goodyear welt method is used, the shoe and the process of manufacture are designated as "McKay" or "Goodyear welt." When the sole is attached to the upper by means of cement the shoe is called "cemented."

In the course of evolution each process has become associated with definite grades and types of shoes. Most of the men's dress shoes are made by the Goodyear welt process, but the cheaper grades of men's shoes are made by the McKay process. Work shoes are generally nailed. For similar reasons the higher-priced women's shoes are made by the Goodyear or Littleway, or some variation of these two processes, while the less expensive grades are made by the McKay process.

esses—Goodyear welt, Littleway, cemented, McKay, and miscellaneous. Again, in the case of men's shoes, there were practically no significant changes in the plants studied, either in method of manufacture or in type of shoe produced, during the entire period 1923-35. In the case of women's shoes, however, some plants included in the sample made changes in their method of manufacturing and the type of shoe produced during the period covered by the survey. This was especially true of the plants producing cemented shoes (which generally replaced McKay-process shoes between 1926 and 1932).

TABLE 3.—Number of pairs of women's shoes produced per man-hour, 1923 to 1936*

Shoe and plant	Process ¹	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936 ²
Women's shoes:															
No. 1	L				0.385	0.374	0.384	0.389	0.380	0.330	0.333	0.347	0.372	0.363	0.351
No. 2	M							.417	.386	.355	.318	.396	.428	.407	.408
No. 3	G								.389	.407	.353	.383	.380	.410	.454
No. 4	L		0.408	0.397	.361	.414	.431	.399	.380	.365	.372	.380	.392	.462	.488
No. 5	M								.389	.355	.331	.369	.440	.459	.442
No. 6	G	0.630	.612	.566	.550	.527	.483	.476	.444	.362	.341	.385	.414	.523	.558
No. 7	M					.546	.574	.588	.605	.577	.527	.566	.600	.596	.575
No. 8	C	.787	.762	.840	.812	.805	.814	.744	.742	.696	.525	.590	.599	.618	.612
No. 9	G			.526	.537	.548	.532	.575	.571	.562	.561	.677	.624	.654	.602
No. 10	M								.563	.490	.528	.662	.714	.698	.702
No. 11	C				.615	.716	.731	.742	.656	.677	.655	.753	.736	.776	.742
No. 12	C						.821	.866	.796	.768	.740	.933	.903	.904	.851
No. 13	C						1.120	1.093	1.023	.907	.880	1.126	1.095	1.017	.961
No. 14	G	.626	.772	.674	.712	.770	.828	.772	.704	.795	.778	.951	1.040	1.115	1.119
No. 15	C	1.486	1.434	1.334	1.123	1.195	1.150	1.085	.911	.940	.938	.981	1.130	1.118	1.063
Growing girls' shoes:															
No. 16	MK		.872	.799	.817	.783	.648	.697	.561	.593	.824	.975	.921	.961	.887
No. 17	MK	1.047	1.008	.999	1.122	1.127	1.156	1.102	.995	.951	1.024	1.032	1.075	1.031	1.049
No. 18	MK	1.107	1.027	1.003	1.044	1.100	1.221	.993	1.015	1.021	.884	1.005	1.088	1.094	1.119
No. 19	MK						1.064	.825	.886	1.018	.781	.978	1.084	1.210	1.264
No. 20	S	1.529	1.317	1.248	1.177	1.250	1.245	1.225	1.314	1.300	1.290	1.424	1.443	1.436	1.506

¹ C=Cemented; G=Goodyear welt; L=Littleway; M=miscellaneous; MK=McKay; S=stitchdown.

² Averages based on data ranging from 3 to 9 months.

Classified on the basis of their 1935 retail prices, the first 6 plants in the sample fell in the high-medium grade group producing shoes retailing at over \$5 a pair. The next 6 plants constituted the medium group, making shoes selling at from \$3 to \$5 a pair. The remaining 3 plants making women's shoes and the 5 plants specializing in manufacturing shoes for growing girls constitute the low-grade group whose output sells at \$3 a pair or less.⁵ However, the number of plants making women's shoes, for which data were available prior to 1928, was so small that no attempt was made to establish averages for the 3 groups prior to 1928. The grouping of the women's shoe plants was applied only to the 17 plants for which data were available after 1928 and to the 20 plants for which data were available after 1930. Table 4 gives the trend of labor productivity separately for the high-medium, medium, and low price groups of women's shoes.

⁵ Generally, shoes for misses and growing girls are treated separately from women's shoes; but the price range of the growing girls' shoes covered in the sample, the method of manufacture, and the average man-hour productivity warrant the inclusion of the 5 plants studied in the sample for low-grade women's shoes.

TABLE 4.—Trend of labor productivity in the manufacture of women's shoes, 1928 to 1936

Year	High-medium grade		Medium grade		Low grade	
	Percent of change from year to year	Index (1935=100)	Percent of change from year to year	Index (1935=100)	Percent of change from year to year	Index (1935=100)
1928.....		96.2		95.0		89.4
1929.....	-1.9	94.3	+1.8	96.7	-6.8	83.4
1930.....	-5.3	89.3	-3.6	93.2	-5.4	78.8
1931.....	-7.9	82.3	-5.9	87.7	+2.6	80.9
1932.....	-5.6	77.7	-5.4	83.0	+0.5	81.3
1933.....	+10.6	85.9	+16.9	97.0	+15.4	93.8
1934.....	+7.4	92.2	+1.3	98.2	+5.1	98.6
1935.....	+8.4	100.0	+1.8	100.0	+1.4	100.0
1936 ¹	+2.6	102.6	-3.7	96.3	-0.5	99.5

¹ Based on averages obtained from data ranging from 3 to 9 months.

Factors Affecting Labor Productivity in Shoes

Shoe Machinery

Changes in shoe machinery and more effective application of power through the use of individual motors were no doubt responsible for a considerable portion of the increase in man-hour output of shoes between 1923 and 1935. A special engineering analysis indicated that the labor time required to make 100 pairs of medium-grade men's shoes, such as was included in the 1895 survey by the Commissioner of Labor, declined from 170 man-hours in 1900 to 106 in 1923, and to 93 man-hours in 1936. The reduction in man-hour requirements in the production of men's shoes between 1900 and 1923 was thus estimated at approximately 38 percent. Between 1923 and 1936 labor requirements were further reduced by approximately 12 percent.

TABLE 5.—Man-hours required for normal daily production of 2,000 pairs of men's shoes, assuming perfect balance of work, in specified years¹

Department	1850 (10-hour day)	1900 (10-hour day)	1923 (8¾-hour day)	1936 (8¼-hour day)
All departments.....	31,020	3,402	2,124	1,870
Cutting.....	960	320	178	167
Fitting.....	11,130	992	642	547
Stock fitting.....	1,310	132	118	110
Lasting.....	2,460	672	319	259
Making.....	12,160	693	437	394
Finishing and packing.....	3,000	543	386	352
Operations not allocated to any department.....		50	44	41

¹ Data refer to men's Goodyear welt shoes of medium grade, retailing at \$3 to \$5 per pair—calf blucher oxford, with perforated tip, and leather heel in 1900 and combination leather and rubber heel in 1923 and 1936.

In the field of machinery an important development since 1923 has been the increased use of clicking machines to replace hand and hand-die cutting in the cutting room, with a resultant saving of from 40 to 50 percent of labor time. Originally, use of the clicking machine was

limited to the cheapest and most standardized grades of shoes. Gradually its use has been extended until now most of the medium-priced men's shoes are also cut by clicking. The clicking machines are also used by all the larger manufacturers of cheap and medium-grade women's shoes. In the high-grade field, hand cutting still predominates.

In the stitching room special types of sewing machines have been developed to meet the requirements of different operations. A notable characteristic is the latest design of sewing machine, capable of performing supplementary operations while sewing a seam. For example, an attachment cuts off the thread automatically instead of its being done by hand. Another machine has a cutting knife, operating as part of the machine, which trims the edge of the leather close to the machine.

The fancy styles in women's shoes require a tremendous amount of marking which used to be done by hand in the stitching room. These hand operations have now been replaced by machines. Perforating machines have been enlarged and improved, to cut out designs as well as to perforate and replace the handwork which was very slow and often done imperfectly.

About 1924 a machine for lasting heel seats relieved the "bedlaster" of that portion of his work. The machine was first built for use on women's shoes but was recently improved for use on men's welt shoes as well.

In the bottoming and making department the productivity of operations on wooden heels for women's shoes has been greatly increased both by mechanization and by shortcuts. Formerly wooden heels were used on better-grade shoes only and the work was done almost entirely by hand. Now machines are used to fit the heel seat, attach the glued heel, trim it, and fasten it with nails driven from the inside of the shoe.

With the use of lighter, better-tanned upper leathers, the use of the old wet cloths had been discontinued. In some plants they were replaced by the installation of humidifiers which, by spraying a fine mist into the air, made the leather more workable. Since 1923 specially designed mulling cabinets or rooms in which the uppers are hung before lasting have become increasingly general. The condition of the uppers can now be suitably and positively controlled to meet the requirements of different kinds of leather in different seasons—without excessive moisture in the work rooms and with benefit to the quality of the finished shoe. The result is economy in the amount of material used in each shoe and a saving in the number and cost of "cripples" or spoiled shoes.

Style Factor

The increasing complexity of detail in women's shoes in recent years has served to reduce labor productivity, particularly in the stitching department but in some cases also in the cutting and treeing departments. The increased use of wooden heels in place of leather or leather-board has slowed down the operations in the bottoming and making department. However, the growing familiarity with the work and the

development of machinery to replace hand operations has largely counterbalanced the adverse effects of styles on labor productivity in these departments.

The general change in styles of women's shoes from oxford to pump and strap types has made edge stitching a very important operation tending to slow down productivity in the stitching department. Cut-outs, complicated designs with an increased number of parts, and fancy stitching result in reduced labor productivity in the cutting, stitching, and treeing departments.

In men's shoes the complications of style are fewer and are due largely to the increase in the number of parts in the uppers, the varieties of leather used, and the increase in importance of white and two-tone shoes. Additional fancy stitching has slowed down productivity in the stitching room and if contrasting colors are used, labor productivity is reduced also in the treeing department.

Management

In addition to the general changes in shoe machinery, which under the lease system affected all manufacturers of shoes, a number of plants have been installing special devices to reduce further the amount of hand labor needed in the process of manufacture and various types of conveyors to dispatch the work in process from one operation to another more effectively.

One plant reported experimentation with a women's automatic heel seater on men's shoes, with a result that the operation could be performed about two and one-half times as fast as by the previous method. A new stapling machine eliminated a stapling operator and a tack puller. A tack-finishing machine in use since 1933 displaced two workers by performing in one handling three operations formerly done by separate operators.

The cumbersome system of large racks, with 36 or more pairs of shoes, standing near each operator or clogging every free space in the factory has given way to smaller racks of 24 or 12 pairs, often traveling on a belt from one operation to another. In other plants the racks have been displaced by a continuous conveyor carrying parts or partly completed shoes from one department to another and from one operation to another, thus greatly eliminating the amount of stock in process and indirectly increasing actual man-hour output of the plant.

Effects of Depression

Much of the abrupt drop in labor productivity during the years of depression, followed in most cases by an equally steep rise in productivity in 1933, constitute what may be regarded as a reflection of the system of wage payments and record keeping which prevails in the shoe industry rather than of actual operations in the course of manufacture.

More than 90 percent of the wage earners in the shoe industry are paid on a piece-work basis. The man-hours actually spent on the job or in the plant never enter as a factor in this wage system and the keeping of records regarding them has never become standard practice in the shoe industry.

Very few manufacturers have, therefore, continuous records of man-hours, though some kept such records during the NRA. It was therefore necessary in most cases to estimate the man-hours of work from the number of workers employed in the plant or in each department and the weekly hours worked by the plant or the department. A check of the estimated with the actual man-hours, when such records were available for some periods, indicated a wide variety in the relationship of these figures in different periods, depending very largely on the volume of operations at the time. Several plants showed close correspondence between the estimated and the actual hours throughout the year, but most plants showed great irregularity, particularly during periods of low production.

Because of this discrepancy between the estimated and actual man-hours of work many plants covered by the survey registered a pronounced drop in labor productivity during the years of depression. However, the effects of the depression on the several grades of men's and women's shoes were quite different.⁶ In the case of high-medium grade men's shoes, labor productivity declined sharply in 1930 and again in 1931. In the medium-grade shoes productivity rose moderately in 1930 but declined slightly in 1931, while in the low-priced shoes labor productivity advanced both in 1930 and 1931. Assuming that during the years of the depression a drop in labor productivity reflected to a considerable degree a reduction in the total production of shoes, it would appear that during the first year of the depression the decline in the total production of shoes was largely at the expense of the high-grade shoes. The medium-grade products probably held their own, but the sale of lower-priced shoes increased noticeably. The second year of the depression apparently affected also the medium-grade shoes to the point of turning downward the labor-productivity trend in this group while in the low-grade shoes labor productivity continued to advance. The drop in the total production of shoes in 1932 must have also affected the low-grade shoes, as reflected in the drop in labor productivity for this group, although in the high-medium and medium groups man-hour output began to advance.

In the case of women's and growing girls' shoes, labor productivity in the high-medium and medium grades declined sharply from 1930 through 1932. In the lower-grade shoes, however, man-hour output fell in 1930 but advanced slightly in 1931 and again in 1932, thus following to some extent the trend of the low-grade men's shoes.

Effect of NRA

The adoption of the President's Reemployment Agreement in August, followed by the code of fair competition in October 1933, helped to reduce, if not altogether to remove, the discrepancy between estimated and actual man-hours. The restriction of the hours of work

⁶ Although there are no statistics showing the effects of the depression on the different grades of shoes manufactured, it is common knowledge among shoe manufacturers that the depression caused large shifts in the demand from more expensive to medium and cheaper grades of shoes. After the 1930 drop in total production from 360 million to 304 million pairs, total production rose to 316 million in 1931, dropped to 313 million in 1932, and rose to 350 million in 1933. During these years the average value per pair of shoes manufactured declined from \$2.67 in 1929 to \$2.37 in 1930, \$2.07 in 1931, and \$1.58 in 1933.

to a maximum of 40 per week and the minimum-wage regulations of the code compelled managements not only to inaugurate a more effective system of record keeping (including man-hours) but also made them improve their systems of planning the work and its distribution among the departments and their numerous subdivisions.

The year of the introduction of the NRA was also marked by a very large increase in the production of shoes in the United States, which in turn contributed to the spurt in man-hour output that occurred in 1933 in all the plants covered by the survey. The increase in the total production of shoes continued during 1934 and 1935 and was accompanied by further, though more moderate, increases in labor productivity during these 2 years.

In April 1935 the NRA was invalidated by the Supreme Court and with it went the wage and hour restrictions in the shoe industry. In 1936, some plants reported the voluntary continuation of the NRA regulations, but many plants had reverted to the old system of irregular hours of work and had abandoned the short-lived habit of keeping records of man-hours imposed by the code. This partly explains the 1936 drop in the man-hour output in a large number of plants included in the survey.⁷ It is therefore impossible to tell what the real effects of the abolition of the code have been on labor productivity in the shoe industry until such time as additional records covering the whole of 1936 and one or two subsequent years become available.



Cement Industry: Technological Changes and Labor Productivity

The amount of cement produced in the United States per wage earner employed in the industry rose from 1,810 barrels in 1904 to 3,190 barrels in 1919. Output per man-hour more than doubled between that year and 1938, according to the findings of a detailed study of the cement industry.⁸

The course of output per man-hour in the cement industry was upward during most of the years from 1919 to 1938. The cause was primarily technological. Changes in the volume of production, however, had much to do with year-to-year fluctuations in man-hour output. In 1933 only about 28 percent of the capacity of the industry was utilized. A fall in production tends to increase overhead and in other ways to add to the amount of labor required per barrel. A contrary effect, however, arises from the tendency to shut down the least productive plants when there is a contraction of the volume of production.

⁷ The data for 1936 represent averages varying from 3 months in some plants to 9 months in other plants and are not strictly comparable with the averages for the preceding years based on 12-month periods.

⁸ U. S. Work Projects Administration. National Research Project. Studies in Equipment Changes and Industrial Techniques, Report No. M-3: Mechanization in the Cement Industry, by George Perazich, S. Theodore Woal, and Herbert Schimmel. Washington, 1939. A more extended discussion of this report was given in the Monthly Labor Review for July 1940 (p. 47). A study of the cement industry from a different point of view was published in the Monthly Labor Review of March 1936: Labor Requirements in Cement Production, by Bernard H. Topkis.

Indexes of output per man-hour and per wage earner in the portland cement industry, 1919 to 1938

[1920=100]

Year	Output per man-hour	Output per wage earner	Year	Output per man-hour	Output per wage earner
1919	96.9	100.1	1929	161.3	159.8
1920	100.0	100.0	1930	168.1	161.3
1921	115.1	116.9	1931	192.7	159.3
1922	127.1	107.5	1932	187.6	141.2
1923	124.8	122.6	1933	189.4	125.1
1924	127.9	125.0	1934	193.4	118.4
1925	138.5	130.5	1935	181.8	114.8
1926	140.1	136.4	1936	206.6	154.2
1927	145.6	147.7	1937	195.7	138.8
1928	152.2	160.5	1938	205.3	137.7

The effect of changes in the extent of utilization of facilities in the individual plants on the number of man-hours required per barrel is so great that when only 60 percent of the capacity is utilized, about one-fifth more labor is required for the production of a barrel of cement than when full capacity is utilized. This is indicated by the following statement.

Percentage of practicably obtainable capacity utilized :	<i>Man-hours required per unit of output</i>
100.0 percent	100.0
80.0 percent	108.6
60.0 percent	120.8
40.0 percent	140.4
20.0 percent	181.4

In most industries, measurable units of production undergo qualitative changes over a period of years. In addition, there has been a tendency toward elaboration of products and utilization of byproducts and in general an increase in production in forms not measurable by standardized units of production. The cement industry has had a relatively slight development of products other than cement itself, but the quality of cement has undergone significant changes, notably as to fineness and strength.

The plants in the cement industry represent a wide range in degree of modernization and of productive efficiency. As a result, labor productivity has varied widely from plant to plant. Information for the year 1935 indicated that in wet-process plants the number of man-hours per 100 barrels ranged from 55 in plants antedating 1906 to 41 in plants originating from 1926 to 1935. In the dry-process plants the corresponding range was much greater—from 54 man-hours in plants antedating 1906 to 33 hours in plants originating from 1926 to 1935. If the more advanced techniques already in use were extended to the entire industry, the effect would be a further significant rise in labor productivity.

There was a large reduction in the amount of labor required per unit of production between 1919 and 1934 in all departments of the cement industry. The reduction in quarrying was 57.7 percent; in processing, 49.2 percent; in maintenance (including yard, shop, and repair gang), 62.2 percent; in mill overhead (including mill office, store-

room, laboratory, superintendents and foremen, watchmen, and miscellaneous labor), 28.3 percent; and in shipping, 49.6 percent. In the various subdivisions of the processing department the reductions ranged from 19.3 to 59.5 percent. In all departments combined the reduction was 51.7.



Cigar Manufacture: Effects of Mechanization ¹

Throughout the nineteenth century and at the beginning of the twentieth, the manufacture of cigars was carried on almost exclusively by skilled hand workers using simple tools only. However, in 1917 machines were introduced which, starting with leaf tobacco as raw material and requiring no special skill of workers in attendance, produced the finished cigars by a series of continuous and integrated operations. The introduction of cigar machines was not followed by their general installation throughout the industry. Today, more than 20 years after the machines first became available, a few factories and a number of small shops continue to use the older hand methods—methods little different from those which might have been observed 30 and even 50 years ago. As a result, cigars—a relatively standardized product—are made by an industry divided into two sections, one using skilled hand labor and time-honored processes, the other, unskilled workers and ingenious machines.

The hand process survives in somewhat less than one-quarter of the cigar production despite the saving of labor time made possible by use of cigar machines. A factory using long-filler cigar machines requires less than half as much labor to produce a standard quantity of cigars as a plant using hand methods. Mechanization of the manufacture of short-filler cigars results in even greater labor-time savings.

A few other improvements in techniques of cigar manufacture have taken place since 1900, but have proved of minor significance; the effects of mechanization in the cigar industry may be credited almost entirely to the increasing use of cigar-making machines. Thus, many of the results of mechanization which in other industries are all too frequently obscured in a multiplicity of small changes stand out here in sharp relief.

Effects of Mechanization on Production

At the beginning of the present century, cigars constituted the most important form in which tobacco was consumed. In fact, the value of the annual production of cigars at that time was over 50 percent greater than that of all other tobacco products combined.² During the period 1900 to 1920, the annual production of cigars increased, reaching a peak of 8.1 billion cigars in 1920. That year saw the highest production level ever attained by the cigar industry, and marked the beginning of its decline. Between 1920 and 1929 production fell to 6.5 billions. During the depression years following, production de-

¹ Summary of article in *Monthly Labor Review*, May 1938 (p. 1100), by W. D. Evans, based upon a study made by the Bureau of Labor Statistics in cooperation with the National Research Project of the U. S. Works Progress Administration. The full report was published as Bulletin No. 660 of the Bureau of Labor Statistics.

² United States Commissioner of Corporations. Report on the Tobacco Industry. Washington, 1909, pt. I, p. 149.

clined sharply to a low of 4.3 billions in 1933. Subsequent recovery raised the level only to 5.2 billions in 1936.

As might be expected, the decline in the market for cigars following 1920 engendered severe competition in the industry. The efforts of manufacturers to maintain sales volume in a shrinking market made price cutting inevitable.

In the cigar industry this has taken two forms. Cigars are sold for the most part in standard retail price classes under established brand names, and improvement in the quality of tobacco used in any cigar therefore may be the equivalent of a price cut without any price change having taken place. Conversely, there may be a cut in the retail price without a corresponding reduction in quality. Since cigars have this quality flexibility, it is frequently difficult to follow real changes in cigar prices.

Between 1921 and 1929 the proportion of all cigars which sold for 5 cents or less each increased from 30 to 55 percent. It seems reasonable to assume that during this period there was an actual improvement in the quality of cigars offered for sale at any given price level. The second form of price cutting was much in evidence after 1929 when a number of large concerns selling cigars under nationally advertised brand names directly cut their established retail prices, at the same time guaranteeing to consumers that the quality of tobacco used was not cheapened. By 1936 the proportion of all cigars which sold for 5 cents apiece, or less, rose to more than 88 percent of the national production.

Labor-cost savings made possible by increased use of improved, mechanized methods of cigar manufacture have been at least in part responsible for reductions in the average retail price of cigars since 1921. Also, to the degree that mechanization has permitted price reductions, it has probably assisted the cigar industry in competition with cigarettes, maintaining the total volume of cigar production at higher levels than would otherwise have been possible. The actual extent of this effect, however, is not subject to measurement.

Another change in the type of production since 1920 may be credited at least in part to mechanization. Before the introduction of cigar-making machines, short-filler cigars constituted a relatively insignificant proportion of all cigars manufactured. They were made principally to dispose of the scrap and cuttings produced as a byproduct of the manufacture of long-filler cigars. However, after 1920 the ratio of short-filler cigars to all cigars manufactured increased steadily from about 11 percent to 27 percent in 1936.

Of great significance is the fact that some companies now manufacture short-filler cigars directly from the whole leaf, utilizing a thresher which beats the leaf from the stem, this taking the place of the stemming operation for the filler. In such factories, therefore, short-filler cigars become a primary product rather than a byproduct of the manufacture of long-filler cigars.

It cannot be doubted that manufacturers are attracted by the substantial labor-cost savings made possible by use of short-filler cigar machines. Not only does manufacture of cigars by this method require about 42 percent less labor in the making department than when long-filler cigars are made by machine and about 78 percent less than

when they are made by hand, but a secondary saving is also possible through elimination of stemming of the filler.³

Effects of Mechanization on Number and Size of Establishments

Cigar manufacturing was introduced on a commercial scale in this country about the year 1800. It was in general a small-scale industry, and a typical cigar shop was frequently the establishment of a single owner-worker. There was little change in the industry until after the Civil War.

Between 1870 and 1900, the mold, suction plate, and hand-bunching tool were introduced. Before this time no tools had been used save a knife and a bench on which to work, so for the first time the matter of investment in equipment had to be considered by a prospective manufacturer. Moreover, the division of labor made possible by these tools gave a group of workers a slight efficiency advantage over a single individual. This period saw the establishment of the factory system of cigar manufacture.

Nevertheless, small-scale manufacture continued to be most characteristic. There were some advantages in large-scale manufacture, but these were not such as to disqualify the small shop from successful competition. A small cigar factory could be started with very little money, and could compete on fairly even terms with larger long-established concerns.

It was not until 1917 that practical cigar-making machinery became a reality. It immediately became apparent that use of cigar machines was not suited to small-scale manufacture. Prerequisites to use of machines were—

1. A considerably larger investment in equipment than was required for hand manufacture.
2. An assured and uniform demand for a large volume of product to permit maximum efficiency.⁴
3. A stable location.

Practically all small companies and a number of larger establishments, unable to meet these conditions, therefore found installation of machines impractical or impossible. To this group was added a number of producers who felt that consumers would not knowingly accept machine-made cigars, and who therefore hesitated to jeopardize their established brand names in a new field. Consequently, machines first found their way into a few large factories, and later gradually spread through the industry as other large units became convinced that machine-made cigars could be sold in competition with the hand-made product.

In 1921 small-scale operation remained the more common type. For example, of a total of 14,578 cigar-manufacturing establishments in business that year, there were only 11 manufacturing more than 40 million cigars each per year, and these together produced but 15.7 percent of the total output of the industry. Nearly as important

³ Figures are taken from data collected during the field survey, and refer to cigars manufactured to retail at 5 cents each.

⁴ Machines are usually installed in batteries of not less than six, each machine having a rated capacity up to 1 million cigars per year in one shift of operation. Overhead costs on the investment required wipes out any advantages accruing to mechanized methods of operation if machines are permitted to remain idle for considerable periods.

collectively were 13,149 small establishments each manufacturing less than one-half million cigars per year, who together produced 13.7 percent of the industry's total. The greater part of all production, 70.6 percent, was contributed by the 1,418 factories each manufacturing more than one-half million but less than 40 million cigars per annum.

*Distribution of cigar factories according to output, in specified years*¹

Annual output	Number of factories with classified output in—				Percent of total production			
	1921	1926	1931	1936	1921	1926	1931	1936
All factories.....	14, 578	10, 247	7, 138	5, 292	100. 0	100. 0	100. 0	100. 0
Under 500,000 cigars.....	13, 149	9, 281	6, 664	4, 902	13. 7	8. 0	5. 2	4. 8
500,000 to 5,000,000.....	1, 130	680	320	256	26. 2	17. 6	10. 7	7. 5
5,000,000 to 40,000,000.....	288	263	122	107	44. 4	49. 4	31. 5	31. 1
Over 40,000,000.....	11	23	32	27	15. 7	25. 0	52. 6	56. 6

¹ Data are from annual reports of the Commissioner of Internal Revenue.

The shrinking market following 1920 and the sharp competition it engendered made economies in manufacturing costs most important. In this situation, the labor-cost savings offered by use of cigar machines proved a decisive factor. But, because of the conditions previously discussed, these machines were installed in the larger factories only.

In a period of 15 years the number and type of cigar-manufacturing establishments changed radically. By 1936 there were but 5,292 firms in business, a reduction of over 60 percent from 1921. The smallest establishments, those manufacturing less than one-half million cigars each per year, numbered 4,902 and produced 4.8 percent of the total number of cigars made. Those establishments manufacturing more than one-half million but less than 40 million cigars each per year, which in 1921 represented 70.6 percent of the industry's total production, had declined in number to but 363 and contributed collectively but 38.6 percent of the industry's production. In contrast, the largest factories, those producing in excess of 40 million cigars each per year, during the same period increased in number from 11 to 27 and produced 56.6 percent of all cigars made in 1936, as compared with 15.7 percent in 1921.

Effects of Mechanization on Labor

Total Employment

Perhaps the most direct effect of mechanization has been a reduction in the size of the labor force required by the industry. Between 1921 and 1935 the number of workers employed by the industry was reduced by half. The fall in the total volume of cigar production during this period was responsible for a large share of this decrease. The number of cigars produced by the industry in 1921 was 6.73 billions; in 1935 the number was 4.69 billions—a reduction of 30.3 percent. This would account for a corresponding percentage reduction in the labor force, equivalent to 34,000 workers, but leaves a further decrease of 22,000 workers to be credited to other causes. Though no accurate records are available, hours of labor decreased

substantially over the period 1921-35. It follows that improvements in manufacturing techniques would have caused displacement of even more than 22,000 workers had this effect not been in part compensated by reductions in the average hours of labor.

	<i>Wage earners in cigar manufacture</i> ¹		<i>Wage earners in cigar manufacture</i> ¹
1919-----	114, 300	1929-----	84, 200
1921-----	112, 000	1931-----	68, 200
1923-----	108, 800	1933-----	54, 600
1925-----	103, 000	1935-----	56, 000
1927-----	94, 600		

¹ Data are from Census of Manufactures.

The question may be approached in a slightly different way. For each long-filler cigar machine the labor of about 4.59 persons is required in the fabricating department of mechanized plants.⁵ An average of 3,706 long-filler cigar machines in use was reported in 1935. On this basis, it is estimated that machine factories making long-filler cigars employed about 17,000 workers in the fabricating departments of their plants in 1935.

About 2.64 times as many workers are required in the fabricating departments of factories using hand methods as in plants using cigar machines to make the same number of 5-cent long-filler cigars in the same time.⁶

It follows that to manufacture the same number of long-filler cigars by hand as were made by machine in 1935 would have required about 44,900 workers ($2.64 \times 17,000$), or some 27,900 more than it is estimated were actually employed. This figure—27,900—approximately represents the hypothetical net displacement of workers from the industry in 1935 by reason of the use of long-filler cigar machines, always assuming the market could have been maintained despite added costs entailed in hand operation.

The long-filler cigar machine, though the largest single influence, has not been the only improvement in manufacturing techniques causing displacement of labor from the industry. Mechanization of manufacture of short-filler cigars must likewise have reduced the number of workers employed. Similarly, increased use of stripping machinery and conveyor equipment in factories must also have eliminated the need for some human labor. No data are available from which to estimate even approximately the number of workers displaced by these mechanical improvements. However, combining their effects with the effect of the long-filler machine, it probably understates the case to say that, in the absence of improvements in manufacturing techniques in the preceding two decades, 30,000 more workers would have been required to make the number of cigars produced by the industry in 1935.

⁵ An average of 9.55 hours of labor, including 8.32 hours of labor by machine operators, was found to be required to produce 1,000 cigars by means of the 4-operator machine. Since 4 operators are required to tend each machine, this represents 2.08 hours of machine operation. Therefore, the labor of 4.59 persons is required to each cigar machine ($9.55/2.08$). (Records of field survey.)

⁶ It was found by the survey that to make 1,000 5-cent long-filler cigars required an average of 25.19 hours of labor in the fabricating department of a hand factory as compared with 9.55 hours in a plant using cigar machines. Put in a slightly different way, this indicates that it would require the labor of 25.19 persons in the fabricating department of a hand plant to make 1,000 5-cent long-filler cigars in 1 hour as compared with the labor of 9.55 persons in a mechanized factory, or 2.64 times as many persons.

The actual character of displacement of men by cigar machines is more complex than would be indicated by the totals given above. Hand cigar makers have in general not been employed as cigar-machine operators. Machine operators have most commonly been recruited directly from the ranks of unskilled labor, and many, if not most, have had no previous experience in the cigar industry. Installation of each machine then has usually caused the induction into the industry of a few new unskilled workers and the complete displacement of a greater number of skilled hand cigar makers. It is estimated that by 1935 about 44,000 such hand workers had been severed from the industry because of use of long-filler cigar machines alone, and, concurrently, that jobs had been provided for about 17,000 new workers who were brought in to run the machines. The amounts which would have to be added to these figures to account for the effects of short-filler cigar machines cannot be calculated.

While the newly introduced workers have been in the main unskilled young women, those displaced have been of both sexes and principally in upper age groups. With a continuous diminution in the hand branch of the industry, these displaced workers have seldom been able to find other outlets for their skill within the industry. Moreover, being accustomed to indoor work of a highly specialized nature, they have had great difficulty in locating or in adapting themselves to employment in other industries. Employment dislocations caused by mechanization have therefore frequently caused great hardship and distress among displaced workers.

Wages

Average annual earnings of workers in the cigar industry averaged about \$800 between 1921 and 1929. After 1929 they declined slowly, reaching a low of \$551 in 1933. A slightly improved average of \$598 recorded in 1935 was still below that for any other census year excluding 1933. The decline in the volume of production after 1920 and especially after 1929 probably accounts for a large part of the decreases.

Mechanization has acted as a mixed influence. Factories using cigar machines, operating more economically than concerns using hand methods, have not been under such pressure to reduce costs. From a superficial examination it appears that wage and hour schedules in most mechanized plants are relatively stable, and wages are not markedly out of line with those paid by other industries in similar localities for comparable types of labor.

In the hand branch of the industry, on the other hand, the constantly increasing number of hand cigar makers displaced from the industry and thrown on the labor market has created an oversupply of such labor. No longer in a position to bargain through their union for relatively high wages, many of these workers have been forced to accept whatever wages were offered. With hand manufacturers in a losing competitive struggle against mechanized concerns, these offers have frequently been meager. Mechanization has thus exerted a constantly depressing influence on wage rates in the hand branch of the industry. For the industry as a whole, the probable net effect of mechanization has been to force wage levels downward.

The influences cited above have resulted in an anomalous situation in which hand cigar makers—skilled craftsmen—frequently receive smaller rates of pay for their labor than machine operators—unskilled or semiskilled workers—making the same class of cigars. This was indicated to be true in 1933 by a special survey of the cigar-manufacturing industry, made for the National Recovery Administration by the Census of Manufactures, which showed that in different plants the weekly earnings of female hand cigar makers making class “A” cigars ranged from an average low of \$8.90 to an average high of \$11.60, while those of female cigar-machine operators making class “A” cigars ranged from \$10.71 to \$13.62. Again, a survey in March 1936 showed that in the industry as a whole female long-filler and short-filler cigar-machine operators averaged 37 cents per hour, while female “out-and-out” hand cigar makers received 36 cents per hour, female hand bunch makers 35 cents per hour, and female hand rollers 32 cents per hour.⁷

Hours of Labor

What effect, if any, mechanization has had on the general level of hours of labor in the cigar-manufacturing industry is not clear. The average length of the workweek appears to have decreased, but how much of this may be attributed to increased use of machines is uncertain.

However, mechanization has had the unmistakable effect of tending to stabilize work schedules. Hours of labor in factories making cigars by hand, especially before the introduction of machines, were in general somewhat informal. In a study of the industry in 1911 and 1912, conditions of work were described as follows:⁸

Many cigar-factory employees do not work all the hours the factory is open and work afforded. The work is so largely individual in many factories that the coming and going of an employee does not interfere materially with the work of others, and expensive machinery does not stand idle when he is absent. * * * No cigar factory visited keeps regularly a record of the time worked by its piece workers.

The situation described above does not obtain in mechanized units. There definite plant hours are established and employees are required to observe precise time schedules.

Mechanization and the Future

Practically, the persistence of hand methods of manufacture on a significant scale seems to rest on two factors. The first depends on the selling appeal of the term “hand-made.” As long as a group of consumers prefer cigars of this type, hand methods will be used to supply the demand. As has been suggested, this appeal is strongest in the case of higher-priced cigars. However, the net effect must depend in large part on the efforts, principally in the advertising field, of manufacturers themselves—efforts which naturally cannot be foretold.

The second factor deals with the question of wages. The original force impelling the industry toward mechanization was especially

⁷ See Monthly Labor Review, April 1937 (p. 957).

⁸ See U. S. Bureau of Labor Statistics Bulletin No. 135.

great because relatively unskilled workers using machines could produce more per hour than skilled and relatively well-paid hand cigar makers. This wage relationship has changed. The oversupply of skilled hand cigar makers on the labor market and the necessity on the part of many to obtain work on any terms have permitted some hand manufacturers to hire adequate numbers of these craftsmen at extremely low wage rates—in many cases at levels below those prevailing for machine operators in mechanized plants. Some hand manufacturers have thus been able to reduce labor costs so far that the difference in cost resulting from differences in productivity has been offset in part or perhaps in some cases completely by the extra costs entailed in using machines. However, this is a precarious position, and any influence tending to reestablish wage differentials between hand cigar makers and cigar-machine operators, or tending to raise wages in the industry as a whole, would renew the drive to mechanization, though probably not with its original force.

The rate at which further mechanization may be expected to take place will probably be slower than in the past,⁹ and will depend on factors which may not readily be evaluated with accuracy.

In any case, mechanization of the cigar-manufacturing industry has not much farther to go. Manufacture of long-filler cigars is about three-quarters mechanized, and that of short-filler cigars perhaps to a greater degree. It does not seem, however, that a stable point has yet been reached, and some further mechanization will probably take place. The effects will probably be, in general, a continuation of those previously noted.



Cotton-Garment Industry: Productivity of Labor

A study of changes in labor productivity resulting from recent technological changes in the manufacture of cotton garments was made by the Bureau of Labor Statistics in cooperation with the National Research Project of the Works Progress Administration.¹⁰ The study covered the characteristics and background of the cotton-garment industry and the development of machinery in the industry, in addition to data on systems of shop management, productivity of labor in the principal branches of the industry, and the effect of changes on labor cost, wages, and the volume of employment.

The sample of 116 plants studied did not contain an adequate number of small plants, of plants paying low wages, and of plants manufacturing cheap products, to be considered fully representative of the more than 3,700 plants in the cotton-garment industry. Failure to cover a more representative sample of plants was due largely to absence of adequate records, particularly in the smaller plants. As a result, the output per man-hour, the wages, and the efficiency of management in most of the factories studied were probably substantially above the average for the industry. The average earnings of

⁹ Since 1932 the number of long-filler cigar machines in place in the industry has been practically constant. However, more efficient utilization of equipment still may have resulted in increases in the proportion of machine-made to total production.

¹⁰ U. S. Bureau of Labor Statistics Bulletin No. 662: Productivity of Labor in the Cotton-Garment Industry, by Nahum I. Stone, Alfred Cahen, and Saul Nelson, Washington, 1939.

the workers covered were probably from 10 to 20 percent higher than the average for the industry as a whole.

The scarcity of records also made it impossible to have the study cover a period as long as was originally intended. Even in the plants where proper records were kept, these were seldom preserved for more than 1 or 2 years. It was therefore difficult even to find 116 plants with suitable records extending as far back as the beginning of the NRA, when the keeping of production, employment, and man-hour records became obligatory. As a result, this study covered only the brief period of 4 years.

Effects of Machine Changes

No changes of a startling character occurred in the machines used by the industry during the 4 years covered by the study. As a matter of fact, there were no significant machine changes during the 20-year period which has elapsed since the World War.

The sewing department of a factory absorbs approximately 75 percent of all its productive labor. The remaining 25 percent is made up of pressers (about 10 percent), examiners (about 9 percent), and cutters and their helpers (about 6 percent). In these departments, in most branches of the cotton-garment industry, machines had generally displaced the shears in cutting and the hand iron in pressing before the war, and no changes which would have any appreciable effect on the production per man-hour in these departments have taken place since then.

The outstanding peculiarity of the industry is that the sewing machine, unlike the machines used in other industries (such as the weaving loom, the paper-making machine, or the automatic bottle machine), is not a machine that automatically governs the output, with the operator functioning as a mere machine tender. In contrast, it is the sewing-machine operator who controls the output of the sewing machine which she uses as a tool. Besides, the time required in handling work and in manipulating the parts of the garment under the sewing-machine needle in fashioning the garment is from two to seven times as great as the time spent in the actual work of sewing. Tests made by industrial engineers show that the sewing time consumes from 15 to 33 percent of the entire time spent by an operator in fashioning a garment and that from 67 to 85 percent of the operator's time is spent in handling her work and manipulating the garment. As a consequence, while the greater speed of the modern sewing machine is conducive to greater production, the amount of handling required sets definite limits to its effects on labor productivity.

The sewing machine is essentially a power-driven needle. A modern machine is capable of operating at the rate of 4,500 revolutions per minute. Translated in terms of work done, this means 4,500 stitches per minute or 75 stitches per second made by the needle. It taxes the capacity of the human eye and the human hand to keep up with such a speed while exercising the necessary skill in moving the garment about under the needle to fashion it into the necessary shape. This largely accounts for the lack of impressive changes in output per man-hour in the cotton-garment industry which could be ascribed to improvements in sewing machinery during the 4-year period covered by the study.

Even where developments of special machines used have resulted in a decided increase in labor productivity on the particular operation, their effect on the aggregate output as a whole has been negligible. A machine which causes a 50-percent increase in man-hour output on 1 of the 30 sewing operations required to make a shirt will increase the productivity of the sewing department to a very small extent, probably less than 2 percent.

Driving or transmission machinery has, however, caused an appreciable increase in man-hour production in the past few years. The improved type of transmission machinery brings about the quicker stopping and starting of the sewing machine. Since the work of the sewing-machine operator consists of short spells of sewing, interspersed by longer intervals of handling, and the number of stops and starts runs into several hundred per hour, the reduction in the time spent on stopping and starting the machine has had a perceptible effect on the man-hour output of sewing-machine operators. In instances covered by the study, this has resulted in an increase in productivity of sewing-machine operators from 12 to 16 percent.

Systems of Production

Three main systems of shop management are in use in the cotton-garment industry: The bundle system, the straight-line system, and the progressive-bundle system. Since the comparatively low ratio of machine operating time to handling time sharply limits the effect of improvement in machinery upon the time required for an operation, changes in shop management that reduce handling time or alter working habits affect productivity far more appreciably than purely mechanical alterations.

The most significant technological development in the cotton-garment industry in recent years was the adoption of the straight-line system. It is the result of the application of the principles of scientific management by a disciple of Frederick Taylor. The essential feature of the straight-line system is that it does away with the so-called "bundle process" which has been in existence since the beginning of the factory system.

The bundle originates in the cutting department of the factory. With the aid of mechanized cutting equipment, scores of layers of cloth are cut according to pattern in one operation, and each of the various parts which make up a garment are kept together in one pile or bundle, which forms the unit of work throughout the entire factory.

From the cutting department, the bundle is delivered to the individual operator, who performs her operation (such as making sleeves, or collars, or pockets, etc.) on the garments contained in the bundle, which is then turned over as a unit to other operators for subsequent operations, until the entire set of garments in the bundle is completed.

Under the straight-line system, the machines are arranged in short parallel rows in the order of the sequence of operations, and as an operator completes her operation on an individual garment or part of a garment, she places it within reach of the next operator. The individual garment or part thus replaces the bundle as a unit of work. This system saves much of the effort wasted in the useless carrying of bundles from one end of the shop to the other and the lifting by

the operators of tons of garments in the course of the day. It also enables operators to concentrate more on their work and results in more effective shop management and planning.

The system is still in its beginning and was found only in a small proportion of the plants covered by the study, where it had resulted in substantial increases in labor productivity. As a rule, the introduction of the line system is accompanied by the installation of new machinery, which, together with the concentration of the line method of operation on a more simple garment, contribute to the greater man-hour output possible on the line.

In addition to higher man-hour output, the straight-line system results in many other savings to plant owners. It greatly reduces the shop inventory or the amount of work in process, with a resultant saving in the capital tied up in stock and the carrying charges connected therewith. It makes possible savings in floor space, in clerical work, and in general overhead expenses, because of a more rapid turnover in production.

Weekly earnings of workers have increased about 10 percent in line plants, as a result of the better utilization of working time under the line system and the avoidance of lay-offs, which are common under the bundle system. This gain in weekly earnings has occurred despite generally reduced hourly earnings in the plants studied. The line system was installed after the termination of the NRA, when average hourly earnings were generally reduced in both line and bundle plants. However, average hourly earnings in line plants declined somewhat less than in bundle plants. A comparison of straight-line and bundle plants shows that, on the average, weekly earnings in line plants were about \$1 above those in bundle plants working the same scheduled hours.

As a matter of general policy, the United Garment Workers Union had opposed the introduction of the straight-line system in the plants under its jurisdiction. The severe competition which union plants were encountering from nonunion straight-line plants resulted in a persistent demand from union manufacturers for introduction of the system. Negotiations between the Union-Made Garment Manufacturers Association and the United Garment Workers Union resulted in an agreement to install the system as an experiment in a small plant owned by one of the largest union manufacturers in the country.

The experiment having proved successful, an agreement was signed between the United Garment Workers Union and the Union-Made Garment Manufacturers Association providing for the use of the line system in all plants under the jurisdiction of the United Garment Workers Union.

The straight-line system has several limitations, however. There is a certain rigidity which makes it almost impossible to use the system for more than one product. Although this can be overcome by having a separate line for each product, the use of the line is impractical if frequent changes in the character of the product take place. Secondly, because of the close balance between operations, the absence of a single worker is a much more serious matter than under the bundle system. Furthermore, since it is seldom possible to adjust the number of workers on each operation to the exact ratio of time taken per operation, there is some loss of time. Finally, the line system is

thought by many to be unsuitable to high-quality work, which calls for careful inspection at various stages of manufacture and the return of defective garments for removal of imperfections.

The progressive-bundle system follows the same principle of work progression through the shop as the straight-line system, except that the work moves in bundles instead of in single garments or parts. Thus, this system also eliminates the handling of bundles by the foreman or his assistants and the repeated shunting of bundles from one end of the shop to another. It has the advantage of being less vulnerable than the straight-line system, but it does not eliminate handling of the bundle by the worker, and it lacks the stimulating effect upon both the individual worker and the management which the straight-line system exerts.

Productivity of Labor

The study included a detailed analysis of labor productivity in 116 plants distributed among the 7 principal branches of the cotton-garment industry: Dress shirts, work shirts, overalls, work pants, semi-dress pants, pajamas, and house dresses retailing at \$1 or less. The data covered the period 1933-36, but were most complete for the final year. Major attention was devoted to the sewing department because of its predominant importance in the manufacturing process and the fact that observed differences in equipment and productive technique related primarily to that department. For most branches of the industry productivity data were presented according to the price group of the garment, the system of shop management, and the union status. Information was also given on productivity by operations, individual differences in productivity, earnings of sewing-machine operators, and direct labor costs. Changes over the period were usually presented for individual plants. In view of the detailed and diverse nature of the data, it is not possible to present the actual findings in this summary.



Cotton-Textile Industry: Mechanical Changes, 1910 to 1936 ¹

A study of the effect of improved machinery and equipment on labor productivity in the cotton-textile industry was undertaken by the Bureau of Labor Statistics in cooperation with the National Research Project of the Works Progress Administration.² The objectives of the study were: (1) To determine the number of man-hours required in 1910 and 1936 to produce a given yardage of goods with the best machinery and equipment available in each period; (2) to ascertain the changes in the number of workers needed to operate these mills; and (3) to measure the changes in output per man per hour which became possible between 1910 and 1936 through improvements in machinery and equipment alone.

¹ Summary of article in *Monthly Labor Review*, August 1937 (p. 316), by Boris Stern, Bureau of Labor Statistics.

² The data on changes in machinery and labor requirements presented in the report were prepared in collaboration with the Barnes Textile Associates, Inc., a leading textile engineering organization with headquarters in Boston, Mass.

To answer these questions, an engineering analysis was made. Composite mill records were built from actual records of performance of separate departments in many mills. It is true that the record was a hypothetical one. The estimates probably could not be checked against those of any operating mill because a mill with absolutely modern equipment in every department may not exist. But equipment which an engineer would recommend as most efficient, if he were designing a mill to be built, can be found in operation in many mills. He would build up his estimate of labor requirements for this composite mill out of data obtained by a study of the various departments of many separate textile mills producing the various kinds of cloth—carded broadcloth, combed broadcloth, sheeting, carded-filling sateen, canton flannel, print, lawn, and terry toweling—and using the kind of machinery he recommends.

In such a study certain assumptions must be made. Those made in the study with reference to the group of composite mill records (which are referred to as mills) were:

That each mill was engaged in the manufacture of one and the same type of cloth in 1910 and 1936 and that it produced an approximately equal quantity of finished goods in both periods.

That each mill was equipped with the best machinery available at that time. This machinery was assumed to have operated at the machine speeds prevailing in the respective periods. Only such machines and equipment as have been proved practical and economical were included.

That the machinery in both periods was adequately housed, in buildings designed to meet the requirements of each mill, and that the mills were provided with such lighting and heating facilities as would be considered good engineering in the respective periods.

That the type of labor available remained constant, and working hours unchanged, throughout both periods. Both groups of mills were assumed to have operated on two 40-hour shifts a week. For each mill and for each period, the output of all so-called processing departments (such as yarn dyeing, bleaching, piece dyeing, printing, napping) and all office and managerial functions were excluded.

That there was "good management" in both periods. Management is an important factor in the output of a plant. It is often as important as and sometimes even more important than good technology. For the purpose of this survey, however, the variations in man-hour output due to the variations in managerial technique were ignored.

The element of wage rates was also eliminated from the analysis. During the period 1910-36 there was a tendency to relieve skilled workers of duties and functions which could be effectively performed by unskilled hands, with the result that the proportion of skilled to unskilled operators was considerably reduced, with corresponding reductions in pay rolls. Nevertheless, for the purpose of this survey it was deemed advisable to exclude the wage factor and to combine all employee-hours regardless of the skill required and the wages paid.

The study showed *the best that could have been done* in 1910 as compared with *the best that could be done* in 1936, allowing only for differences in the efficiency of available machinery. In effect

these were "ceiling" figures, below which operating results with less completely modern equipment ranged, but toward which average performance would tend to be lifted through the installation of new equipment.

Findings of Survey

The utilization of the most advanced cotton-textile machinery on the market in 1936, as compared with the most advanced machinery on the market in 1910, would have made possible considerable increases in the man-hour output of all the eight cotton-textile products studied. Stated in another way, the same amount of product could have been produced with considerably fewer man-hours in 1936 than in 1910.

The greatest increase in man-hour output of finished grey cloth thus made possible was in the case of terry cloth, this increase amounting to 151.8 percent. Production of lawn cloth showed the next greatest increase, amounting to 90.2 percent. The possible labor-time reduction in the terry-cloth mill was 59.9 percent and in that producing lawn 47.5 percent.

TABLE 1.—*Productivity and labor requirements in manufacture of cotton textiles, 1910 and 1936*

Mill producing—	Man-hour output of finished product (grey cloth)					Labor-time requirements for identi- cal quantity of output			
	1910		1936		Percent of in- crease	Output (yards of grey cloth)	Man-hours required for two 40-hour shifts		
	Pounds	Yards	Pounds	Yards			1910	1936	Percent of de- crease
Carded broadcloth.....	3.26	16.30	4.88	24.40	49.69	437,890	26,880	17,960	33.18
Combed broadcloth.....	2.65	10.60	4.26	17.04	60.75	295,828	27,880	17,360	37.73
Sheeting.....	3.95	15.80	6.14	24.56	55.44	541,496	34,200	22,040	35.56
Carded-filling sateen.....	2.76	13.14	4.05	19.28	46.74	343,742	26,120	17,840	31.70
Canton flannel.....	7.25	13.55	11.47	21.44	58.21	559,149	41,280	26,080	36.82
Print cloth.....	3.05	12.20	4.62	18.48	51.50	307,000	25,200	16,600	34.10
Lawns.....	.92	8.28	1.75	15.75	90.20	220,000	26,680	14,000	47.50
Terry cloth.....	2.84	10.79	7.15	27.17	151.80	² 701,680 ₁ 712,480	75,400	30,240	59.90

¹Data for 1935.

²1910.

The exceptionally large increases possible in the output per man-hour in the mills producing terry cloth and lawns with the most modern equipment in 1910 and 1936 were due to the development and adoption, during this period, of automatic looms which were already in use in 1910 for the six other textile fabrics studied. In studying the six other types of cotton cloth, it was found that modern equipment in 1936 permitted an increase of output per man-hour of 46.7 percent for carded-filling sateen and 60.8 percent for combed broadcloth over the output of a mill that would have been up to date in 1910. The reductions in labor-time requirements ranged from 31.7 percent for carded-filling sateen to 37.7 percent for combed broadcloth.

Obviously, under the assumptions made, the greatest increase in the man-hour productivity in each mill occurred in the department

which underwent the largest amount of mechanical improvement between 1910 and 1936. The largest productivity increase was made possible in the spooling and warping department (see table 2). The increase in the man-hour output of that department ranged from 120 percent for carded-filling sateen to 176.9 percent for combed broadcloth. For other products the increases in labor productivity in the spooling and warping departments were:

	<i>Percent of increase</i>
Lawn.....	122.2
Flannel.....	142.3
Carded broadcloth.....	150.0
Print.....	159.6
Sheeting.....	169.2
Terry cloth.....	171.7

The period 1910-36 witnessed significant mechanical advances in spooling and warping equipment. Spoolers were made almost wholly automatic. On the machines in use in 1936, breaks in the threads were repaired by a traveling automatic device. Spindle speeds and capacities were also greatly increased. In the warping equipment three major improvements were introduced during the period: (1) Whereas in 1910 the speed capacity of warpers ranged from 50 to 60 yards per minute, in 1936 high-speed warpers were operating at from 350 to 900 yards per minute, depending on the type of warper and size of the yarn processed. (2) The addition to the warper of a magazine creel making available additional sets of "cheeses" or cones permitted continuous operation. (3) Enlargement of the section beams permitted the winding of a larger quantity of yarn per beam.

TABLE 2.—Percent of increase in man-hour output of processing departments in 1936 compared with 1910

Department	Percent of increase in man-hour output, in mill producing—							
	Carded broadcloth	Combed broadcloth	Sheeting	Carded-filling sateen	Canton flannel	Print cloth	Lawn	Terry cloth
Carding.....	85.12	101.86	112.49	81.39	95.92	93.05	100.00	112.30
Spinning.....	32.21	31.58	38.89	32.75	32.54	37.35	43.06	45.56
Spooling and warping.....	150.00	176.93	169.18	120.00	142.31	159.74	122.22	171.74
Slashing and drawing.....	50.00	37.49	60.00	42.86	57.13	66.67	16.69	65.56
Weaving.....	48.43	60.00	37.78	47.30	50.56	41.24	184.90	290.62
Cloth room.....	11.77	15.38	22.22	14.29	22.22	15.34	20.05	2.99

Although the percentage increase in the labor productivity of the spooling and warping department was greater than for any other department, it must be emphasized that this department employs a smaller amount of labor than most of the other departments and consequently has a smaller effect on total labor requirements. On the other hand, while the percentage increase in labor productivity in the carding room was not so large as in the spooling and warping room, it affected a considerably larger number of workers.

Again, although the effect of the use of modern equipment on employment in the spinning room in 1936, as against the use of modern equipment in 1910, appeared to be less than in other departments, the mechanical changes in this department had a very large influence on

the requirements in the sections of the mill where the stock is processed for spinning.

The corresponding percentage decreases between 1910 and 1936 in the number of workers or of man-hours required to produce an identical amount of grey cloth are shown in table 3 for the six main departments of hypothetical mills producing different kinds of cloth.

TABLE 3.—Percentage of decrease in labor requirements for identical output of processing departments in 1936 as compared with 1910

Department	Percentage of decrease in labor requirements, in mill producing—							
	Carded broad-cloth	Combed broad-cloth	Sheeting	Carded-filling sateen	Canton flannel	Print cloth	Lawn	Terry cloth
Carding.....	45.98	50.46	52.94	44.87	48.96	48.20	50.00	52.90
Spinning.....	24.36	24.00	28.00	24.67	24.55	27.30	30.10	31.30
Spooling and warping.....	60.00	63.89	62.85	54.54	58.73	61.50	55.00	63.20
Slashing and drawing.....	33.33	27.27	37.50	30.00	36.36	40.00	14.30	39.60
Weaving.....	32.63	37.50	26.89	32.11	33.53	29.20	64.90	74.40
Cloth room.....	10.53	13.33	18.18	12.50	18.18	13.30	16.70	2.90

In contrast to the reduction in labor requirements in each of the 6 main departments of a mill, the 1936 requirements of miscellaneous labor, power, and yard maintenance, etc., in the hypothetical mill assumed in this study were larger for all products except terry cloth. The increase ranged from 10 percent for print cloth to 18.2 percent for sheeting. In the manufacture of terry toweling the labor-time requirement of power, yard maintenance, and miscellaneous labor in 1936 as compared with 1910 was reduced nearly 3 percent.

The principal changes in occupational requirements, in the eight hypothetical textile mills assumed to have produced an amount of grey cloth in 1936 equal to that in 1910, occurred in the sections where effective changes in machinery or equipment were introduced. There was practically no change in the number of supervisors, such as overseers, foremen, etc., between the two periods.



Crushed-Stone Industry: Productivity and Employment, 1913-37

A study by the Works Progress Administration, covering the historical development and present status of the crushed-stone industry,¹ described the place of the industry in the national economy thus:

Crushed stone for use as furnace flux is one of the three basic raw materials of the iron and steel industry; it is one of the chief materials used in the construction and maintenance of highways and railway roadbed and in various other types of construction. Agricultural limestone constitutes a large part of the total tonnage of soil-rebuilding materials produced in the United States. Other important outlets for crushed stone are the chemical industries, glass manufacture, and sugar refining.

¹ U. S. Works Progress Administration. National Research Project. Mineral Technology and Output Per Man Studies, Report No. E-8: Changes in Technology and Labor Requirements in the Crushed-Stone Industry, by Harry S. Kantor and Geoffrey A. Saeger. Washington, 1938. A more extended discussion of this report was given in the Monthly Labor Review for April 1939 (p. 820).

In the early 1890's, when hand labor predominated, the industry produced only 5 or 6 million tons annually. By 1913 the total output was 80 million tons, and the industry offered a livelihood to 67,000 men. The number employed in 1913 has not since been equaled. The great gains in productivity—from 0.49 ton per man-hour in 1913 to 1.38 tons in 1929—brought about a drop of one-third in the number of men employed, despite a two-thirds increase in the industry's production.

The main processes are stripping or removal of overburden, drilling and blasting, loading and haulage, crushing, screening, and washing. The estimates of changes in average man-hour output given above and in the accompanying table take into account these various processes.

*Production, employment, and average output in the crushed-stone industry, 1929-36*¹

Year	Commercial operations ²					All operations				
	Production (short tons)	Average number of men em- ployed	Average hours per man per year	Average out- put per man- hour		Production (short tons)	Average number of men em- ployed	Average hours per man per year	Average out- put per man hour	
				Short tons	Index (1929= 100)				Short tons	Index (1929= 100)
1929.....	131,984,945	45,763	2,095	1.377	100.0	139,296,936	50,299	2,072	1.337	100.0
1930.....	116,523,149	42,675	1,980	1.379	100.1	123,862,811	47,065	1,968	1.337	100.0
1931.....	90,427,525	41,484	1,557	1.400	101.7	97,498,270	46,456	1,544	1.359	101.6
1932.....	60,173,358	34,571	1,375	1.266	91.9	67,177,535	40,764	1,361	1.211	90.6
1933.....	58,013,707	32,933	1,282	1.374	99.8	65,665,117	39,801	1,255	1.314	98.3
1934.....	67,390,436	33,700	1,303	1.536	111.5	84,699,176	48,112	1,230	1.432	107.1
1935.....	64,411,083	29,143	1,367	1.616	117.4	81,074,943	44,403	1,242	1.470	109.9
1936.....	93,175,614	32,573	1,547	1.849	134.3	122,599,090	49,135	1,478	1.688	126.3

¹ Sources and methods of making estimates of employment and average output are described on pages 17, 18, 123, of the report under review. (See footnote 1 on p. 806.)

² The U. S. Bureau of Mines defines noncommercial production, here excluded, as the tonnages reported by States, counties, municipalities, and other Government agencies, produced either by themselves or by contractors expressly for their consumption, often with publicly owned equipment. (Minerals Yearbook, 1937, p. 1199.)

During most of the years from 1919 to 1929, the industry was expanding and was called upon therefore to increase its productive capacity. Many old establishments were modernized and new enterprises naturally utilized the newer techniques. One of the important earlier technological improvements was the adoption of power loading and hauling in the stripping process or removal of material overlying rock deposits. Power loading stimulated the use of larger crushing machines. Improved drilling and blasting processes were introduced, making it possible to shoot down enough rock to keep the shovels busy. Mechanized screening and washing devices not only increased the output per unit of labor but facilitated conformity to the increasingly rigorous specifications of highway and construction engineers and industrial chemists. Building problems at the scene of operations were simplified by belt-conveyor installations between buildings as well as within buildings. A particularly significant phase of technological improvement was the increasing emphasis on balanced operation.

Before 1929 the principal technological changes were of such nature as to be best adapted to large establishments. Between 1913 and 1929, establishments producing more than 100,000 tons per year in-

creased their average output per man-hour almost fourfold, whereas smaller establishments experienced less than a threefold increase. Conditions after 1929 tended to favor a relatively large increase in average man-hour output in the smaller establishments. The increase in the larger limestone establishments between 1929 and 1936 was only 17 percent, while the increase in smaller establishments during the same period was about 44 percent. The larger establishments seemed to have reached relative stability in techniques by 1929, but some important recent technological changes, such as improvements in mechanical shovels, making possible the use of smaller crews and less power, have become available to smaller plants. After 1929 the declining demand and the intensification of competition made greater efficiency on the part of many small plants the price of survival.

In spite of the impetus to improvement resulting from these conditions, there is still a wide range of efficiency and productivity in the industry. Many producing units offer opportunities for further mechanization and improved techniques. It is probable that any increase in demand and in aggregate production will not be accompanied by a corresponding increase in employment.



Industrial Instruments: Changing Technology ¹

Industrial instruments may be classified, according to their functions, into three main groups, namely, indicating, recording, and controlling instruments. The indicating type, which was the first to be developed, includes various kinds of meters and gages. Next came the recording type, such as recording thermometers and chronometers. Both of these types have long been in limited use. The control devices, which comprise the third type, were not used extensively in industry until the middle 1920's. In addition to indicating and recording temperature, pressure, speed, liquid level, fluid flow, concentration of solutions, composition of gases, etc., they automatically maintain a desired condition through the operation of valves, switches, and other regulatory devices.

With the growth of mass-production industries, the development of new processes, both chemical and mechanical, and standardization of products, quantitative methods of specification and control have become practicable and economical in many fields of production. These methods call for the use of instruments for regulating and facilitating the operation of machines. The use of industrial instruments is in a sense a new stage, increasingly automatic, in the general process of mechanization. Thousands of instruments are now made, some of which are major inventions, while others are minor mechanical refinements.

The earlier and simpler indicating and recording devices have been superseded increasingly by instruments that include automatic con-

¹ Summary of U. S. Works Progress Administration, National Research Project, *Studies in Equipment Changes and Industrial Techniques*, Report No. M-1: *Industrial Instruments and Changing Technology*, by George Perazich, Herbert Schimmel, and Benjamin Rosenberg, Washington, 1938. A somewhat more extended discussion of this report was given in the *Monthly Labor Review* for April 1939 (p. 818).

trol features. In terms of value of sales of the three types of instruments in 1923, indicators were 28.6 percent of the total, recorders 63.7 percent, and controllers only 7.7 percent; in 1935, indicators were 21.6 percent, recorders 45.1 percent, and controllers 33.3 percent. Control instruments frequently also indicate and record.

The industries that have made most extensive use of industrial instruments are the metals industries, which in 1935 purchased 26.5 percent of the instruments as measured by sales values; the power industries, which purchased 16.3 percent; and petroleum, mainly petroleum refining, which also purchased 16.3 percent.

There has been much emphasis in recent years on the development of labor-saving techniques. Industrial instruments are vitally significant as illustrations of the recent emphasis on capital-saving as well as labor-saving techniques. They have tended to economize materials as well as capital equipment. In some cases, instruments have made possible the use of less expensive materials, and yet they have frequently improved the quality of the product. Fuel economy, particularly important in the power industry, is illustrated by the experience of a public-utility plant, which, merely by means of carbon-dioxide recorders, achieved a saving of 15.5 percent in fuel. Instruments have frequently made possible an increase in the speed of operation of machines without a corresponding rise in operating costs. They have not only increased the efficiency of machinery but also in many cases have safeguarded machinery from excessive strains, etc., and have reduced repair and maintenance costs. Increased efficiency has tended to make unnecessary an increase of capital equipment, and the safeguarding of machinery has tended to prolong its life and thus reduce replacement costs.

Under prevailing conditions of restricted demand for the products of industry, the increasing use of industrial instruments has had some effect on the demand for labor as well as on the demand for funds for investment. Economies in operating processes, in the reduction of waste, breakage, etc., in the maintenance of continuous operation, and in repair and maintenance charges have contributed indirectly to reductions in labor requirements as well as in requirements for capital outlays. In some cases there have been direct savings of labor. Relays, switches, and other mechanisms for transferring the actions of instruments into automatic operations have eliminated manual workers. In the canning industry, for example, automatic controllers made it possible for a single attendant to operate a battery of kettles. An instrument, used in the automobile industry, for inspecting wristpins and grading them according to size eliminated between 10 and 20 men. When the use of industrial instruments results in a sufficient increase in the volume of production, through price reductions or improvements in quality or variety of products, there is, of course, no net reduction in the number of workers required.

Another economic effect of the use of industrial instruments is the shift in the composition of the labor force. The obsolescence of certain skills may cause serious dislocations, particularly if the skills are highly specialized and are not in demand in other establishments

or industries. Some types of industrial instruments have tended to create a demand for new skills and to require the employment of men with a broad grasp of industrial processes. Some operators and maintenance men are in fact professional engineers.



Leather Industry: Labor Productivity ¹

The output per man per hour in pounds or square feet of leather produced advanced approximately 25 to 28 percent between 1923 and 1935, according to a survey by the Bureau of Labor Statistics in cooperation with the Works Progress Administration. About half of this gain was registered after 1933.

The leather industry is not homogeneous. It is rather, in many respects, a group of some 10 independent subindustries. The Bureau's survey covered the four most important of these subdivisions—the manufacture of sole leather, side, calfskin, and kid leather. In 1935 these four branches together accounted for 96 percent of all leather used in the manufacture of shoes, for 75 percent of the whole output of the industry, and for approximately the same proportion of the total employment.

The number of establishments in the industry has decreased since the middle of the nineteenth century by more than 90 percent, and by nearly 40 percent since 1923. The decline has been most pronounced in the case of the sole- and side-leather branches, and least in the case of the calfskin and kid. The number of large and medium-sized units has decreased much less than the number of small ones. The output per establishment has increased greatly with this change; but the size of the typical producing unit is still small in comparison with that which prevails in many other important industries. Even the relatively large plants have, on an average, fewer than 500 employees each. The increase in average output per establishment has played a considerable part in making practicable the gains that have been registered in production per man-hour.

The amount of work done by hand in tanneries is still considerable. Hardly any of the machines in use can be called automatic, and almost every process involves some manual skill. The stock is easily damaged by unskillful handling, and at some stages it deteriorates rapidly if not pushed with due promptness through the routine of manufacture. A high premium is consequently put on skill and training. It is also important that a sufficient number of workers be immediately available to avoid deterioration of the material in process, when the volume increases. For these reasons owners and managers are reluctant to let experienced men leave their employ, even when their production schedules are on the downgrade. The proportion of indirect workers is fairly large—about 13 percent for the four branches together, and 20 percent for the sole-leather branch. This results from the practice of employing substantial repair and maintenance forces and from the amount of labor required for the internal transportation of stock in process. The number of separate operations is

¹ Summary of an article in the *Monthly Labor Review* for July 1937 (p. 68) by John R. Arnold, under the direction of Boris Stern of the Bureau of Labor Statistics. The article was based, as indicated, on a study undertaken by the Bureau of Labor Statistics in cooperation with the National Research Project of the Works Progress Administration.

large, and the stock must frequently be moved up and down and to and fro. Despite installations of power conveying and handling equipment, the amount of labor used for this purpose is still substantial.

The survey by the Bureau of Labor Statistics covered a total of 55 tanneries (operated by 30 companies) which in 1935 accounted for about 54 percent of the total production of the four branches and for 48 percent of the employment.

For a limited number of important establishments intensive studies were made; that is, data for employment, man-hours, and production were obtained for every year from 1936 back to 1923, when the available records permitted, both for the whole plant and for all its departments. For the remaining establishments summary studies only were undertaken. In such cases figures were obtained for the whole of each plant, but not for the departments, for the years 1934-36; and these have been combined with the 1923 and 1931 data for the same establishments, which were gathered for the purposes of a previous survey of labor productivity in the leather industry made by the Bureau in 1932.

In this summary the tables drawn from the survey material are for the intensive studies only. The latter, however, show about the same production per man-hour as the whole sample (including the summary studies) and the same trend since 1923.

The man-hour production of the tanneries included in the survey sample runs higher than that of the same branches at large, due mainly to the fact that the desired information could be obtained only for large or medium-sized and relatively efficient establishments. The extent of the difference between the productivity of the branches as a whole and that of the samples in 1935 is shown by table 1. In the case of the kid-leather branch, which is the most homogeneous of the four, the differences are slight.

TABLE 1.—Output per man-hour in branches of leather industry covered by survey, 1935

Branch of industry	Unit of output	Whole branch ¹	Survey sample	
			All studies	Intensive studies
Sole leather	Pound	16.34	19.30	20.70
Side leather	Square feet	² 22.20	² 26.40	² 28.94
Calf leather	do	11.71	13.54	13.86
Kid leather	do	11.55	11.56	10.87

¹ These rates were derived from samples of production and man-hour data much larger than those of the survey itself but available only for 1935.

² The production data from which these rates are computed include rough patent sides and splits. The total production of splits is estimated.

Table 2 shows, in the form of index numbers, the change that has taken place since 1923 in the labor productivity of each of the four branches covered by the survey and of all four taken together. With these, for purposes of comparison, there appears a computed index of the productivity of the industry as a whole. The latter indicates a gain from 1923 to 1935 of a little more than 28 percent, while the increase shown by the survey sample is 25 percent.

TABLE 2.—*Indexes of production per man-hour of tanneries covered by intensive studies, by branch of industry, and for industry as a whole, 1923-36*

Year	Industry as a whole	1936 survey: Indexes (1935=100) of production per man-hour				
		Four branches ¹	Sole	Side	Calf ²	Kid
1923.....	78	80	76	(³)	(³)	81
1924.....	82	81	78	83	(³)	88
1925.....	75	83	74	89	(³)	92
1926.....	78	80	71	84	78	88
1927.....	81	85	79	85	87	91
1928.....	84	84	80	81	88	94
1929.....	79	86	85	82	86	94
1930.....	84	91	87	85	93	106
1931.....	84	92	87	93	88	102
1932.....	92	90	88	85	98	93
1933.....	88	94	92	93	95	99
1934.....	98	97	95	96	100	98
1935.....	100	100	100	100	100	100
1936.....	96	97	104	91	91	103

¹ Weighted averages of the 4 columns following. The weights used were based on the approximate average number of square feet per side or skin of each class. They are: Sole leather, 17½; side leather, 17½; calf leather, 10; kid leather, 5.

² Not available. Taken as 85 in computing the weighted average.

³ Not available. Taken as 78 in computing the weighted average.

⁴ Based on data for 9 months in the case of kid leather and 6 months in the cases of sole, side, and calf leather.

In table 3 the labor-productivity index for the whole industry is shown for all the years of the Census of Manufactures. With it appear the indexes of employment, of average hours per week, of total man-hours and of quantity produced, from which the index of production per man-hour itself was derived.²

TABLE 3.—*Indexes of production per man-hour in leather industry, for census years, 1849-1935*¹

Year	Index numbers (1935=100) of—				
	Employment	Average hours per week	Total man-hours	Quantity produced	Production per man-hour
1849.....	50	166	83	21	25
1859.....	52	151	79	20	28
1869.....	69	151	104	37	35
1879.....	79	151	119	62	52
1889.....	83	151	125	70	55
1899.....	102	151	154	82	53
1904.....	113	151	171	89	52
1909.....	122	144	176	96	54
1914.....	110	131	144	89	62
1919.....	142	127	180	102	56
1921.....	96	122	117	89	76
1923.....	117	125	146	114	78
1925.....	103	125	129	96	75
1927.....	104	120	125	101	81
1929.....	98	125	123	97	79
1931.....	83	119	99	82	84
1933.....	87	110	96	84	88
1935.....	100	100	100	100	100

¹ Sources: Index of employment, from Census of Manufactures and Bureau of Labor Statistics; index of average hours per week, computed from data in publications of the Bureau of Labor Statistics and the National Industrial Conference Board; index of quantity produced, computed from data in publications of the Bureau of the Census and the Bureau of Foreign and Domestic Commerce.

² The index of production per man-hour was derived by multiplying the index of employment by the index of average hours per week and dividing the resulting index of total man-hours into the index of quantity produced.

In the case of this industry the introduction of new processing machines may be disregarded almost entirely as a cause of increased labor productivity since 1923. A few new machines have been introduced, and here and there they have cut down labor required in single departments. But such savings, as a rule, have either been offset by changes designed to improve the quality of the product and requiring more labor time, or were not large enough to influence appreciably the output per man-hour of the plant as a whole.

The most important of the processing machines now in use originated in substantially their present form more than 50 years ago, though they took a long time to replace the older hand processes completely. During the past 20 years the chief motive for the adoption of the few new processing machines that have appeared has been to improve the quality of the product; and some of them have involved the expenditure of more labor rather than of less.

The installations of power conveying and handling equipment which most affected the production of leather per man-hour were also made before 1923, and their effects, therefore, do not show up in the survey material. Revisions of plant lay-outs appear as an important cause of increased productivity in a very few cases only. Changes in processes have not affected a large enough part of the labor force of any establishment to be reckoned an important factor.

These statements tend, by a process of elimination, to suggest that the really effective causes of the changes in output per man-hour in recent years have been the improvement of the organization and management of labor, the elasticity of the production combined with the need of maintaining a relatively fixed number of workers, and the concentration of the output in a smaller number of plants. There is abundant nonstatistical evidence, moreover, to support this conclusion.

Moderate fluctuations in a tannery's production over short periods are likely to be accompanied by increases or decreases in productivity without intentional changes in the handling of labor; and in such cases it may be correct to state that the variations in the former are the cause of the gains or losses in the latter. The immediate cause of substantial increases in production per man-hour over the whole or the greater part of the years since 1923, however (since they cannot be explained in most cases by changes in equipment, lay-out, or processes), has been the deliberate improvement of organization and management. An accompanying increase in production in such a case has merely facilitated the raising of output per man-hour, by making it possible to accomplish the purpose without breaking up the trained labor force.

In the case of almost all the kid-leather and calfskin tanneries covered by the survey, there has been an association of this kind between the movement of output per man-hour since 1923 and the volume of production. Every substantial gain in the former has accompanied an expansion in the latter. Where the output has not increased, the production per man-hour has never risen materially, though it has not always declined.

The sole- and side-leather branches, on the other hand, show many instances of substantial increase in productivity in the face of declines in production. They also show cases in which gains in productivity that might have been expected to accompany increases in output have

been offset by changes in processes or equipment, made with the object of improving the quality of the product or its suitability for some particular markets.

The concentration of the production of leather in a smaller number of plants since 1923 may be regarded as a contributing cause of the increase in labor productivity. Such concentration has made it possible for individual tanneries to expand their production without taking business away from still active competitors; and has thereby increased the opportunity to raise productivity without breaking up an existing labor force.

The productivity of tannery labor has been influenced so much by the judgment of owners and managers, and by other intangible factors, as to make it hard to envisage the changes that should be looked for in the future. Cases in which gains in productivity are facilitated by increases in production are not likely to be so numerous as they have been during the past 15 years. The experience of the sole- and side-leather branches, however, has shown that the level of productivity may be raised even in the face of a decline in output. Incidentally, moreover, the field work of the survey brought to light so much evidence of continued time wasting, lost motion, and adherence to traditional tasks and rates of output, as to suggest that the chance for increasing productivity through improvements in management is still far from negligible.

Apart from the causes discussed above, account must always be taken of the possibility that the labor productivity of a tannery or of a branch of the industry has been affected by a shift in the products manufactured. A company does not often change outright from one major branch to another. There are frequent shifts, however, in the proportions of staple and specialty leathers produced by kid-leather and calfskin tanneries, and in the percentage of patent stock turned out by side-leather plants. The problem of disposing of the offal³ produced in sole-leather tanneries and of the splits which are taken off in the process of manufacturing side-leather leads, moreover, to frequent changes in the mode of finishing these byproducts, with a consequent effect on the production per man-hour. In the side-leather branch as a whole the expenditure of additional labor to turn out a more highly finished article has, since 1923, offset part of the gain in the efficiency of labor.

Where practicable, data were obtained for the amount of wages paid in the establishments covered by the survey. These, with some adjustments, have been used to compute the indexes of labor cost per pound or square foot which appear in table 4.

As a result of higher labor productivity in the sole-, calf-, and kid-leather branches of the industry in 1936 as compared with 1923, labor costs declined, but not in proportion to the increased productivity. This is due to the higher wage rates which have been established, largely as incentives for greater productivity. Part of the gains resulting from higher labor productivity thus went to labor and the remainder to the employers. No data are available to determine to what extent the consumer derived any benefit from this change.

³The parts of a hide unsuited for finishing as sole leather in the strict sense.

TABLE 4.—Indexes of labor cost¹ of the four principal classes of leather, 1923–36

[1935=100]

Year	Four branches ²	Class of leather			
		Sole	Side	Calf	Kid
1923.....	116	121	(³)	(⁴)	113
1924.....	113	119	110	(⁴)	102
1925.....	110	124	102	(⁴)	96
1926.....	117	133	106	119	107
1927.....	109	119	105	107	102
1928.....	107	113	106	108	97
1929.....	107	111	107	114	97
1930.....	100	105	104	107	82
1931.....	100	110	98	104	86
1932.....	93	93	103	85	85
1933.....	88	92	88	90	82
1934.....	102	102	100	103	103
1935.....	100	100	100	100	100
1936 ⁵	103	96	110	109	100

¹ In cents per pound or square foot.² Weighted averages of the 4 columns following. The weights used are means of 2 series, based, respectively, on the value of the production and on the volume of employment of the various classes. They are: Sole leather, 32; side leather, 32; calf leather, 15; kid leather, 21.³ Not available. Taken as 110 in computing the weighted average.⁴ Not available. Taken as 119 in computing the weighted average.⁵ Based on data for 9 months in the case of kid leather and for 6 months in the cases of sole, side, and calf leather.

In the side-leather branch the situation has been complicated by the expenditure of additional labor to turn out a more highly finished product. This has offset part of the gain in labor productivity resulting from improved management, and has correspondingly reduced the gross saving in wages. The latter, therefore, has been wholly absorbed by the higher rates paid to stimulate productivity, and no net saving in labor cost appears. Manufacturers of side leather, however, have presumably received an equivalent in the form of better prices for their product.



Lumber Industry: Technology, Productivity, and Employment

The lumber industry has some of the characteristics of the extractive industries. Like those industries, it has been marked by regional shifts, by stranded populations in depleted areas, by utilization of progressively less accessible or less desirable resources, and by declining competitive power in relation to industries producing alternative materials. The prevailing methods of lumbering in the United States have accounted largely for progressive depletion, as in the mining industries. Forest resources, however, unlike mineral resources, are renewable under appropriate management, and this fact has given rise to increasing emphasis on the possibility of sustained-yield lumbering. These features of the history of lumbering

in the United States are emphasized in a study by the Work Projects Administration.¹

The lumber industry is characterized by great diversity in types of timber resources, types of products, and uses made of the products of the industry. Regional differences are so great as to give to the industry in the several main areas distinctive features both economic and technological. As long as abundant timber stands of high quality were readily accessible, technological changes were designed merely to obtain timber products with a minimum of effort. The more recent history of the industry has been characterized increasingly by depletion of resources and at the same time by declining demand and increasing intensity of competition from other industries. Technological changes in recent decades have therefore been introduced in considerable part for the purpose of counteracting the forces that tended to increase production costs and the amount of labor required per unit of output.

There have been two general methods of adjustment to timber depletion. One of these has been an improvement in techniques for exploiting the less desirable stands of timber with the same or a smaller expenditure of labor per unit of output. The other method has been a shift of production to smaller mills such as could be moved more readily to smaller and more remote stands of timber at comparatively small cost. Since 1920 the outstanding technological change has been the adaptation of tractors, trucks, and light cable yarders to logging operations. This type of equipment has made it possible to cut scattered stands and concentrate the logs at the mills at reduced cost. The mills themselves have undergone extensive change through the use of mechanical handling equipment, the refinement and increased speed of operation of sawmill and planing-mill machinery, and the shift to electric power. These technological changes have been carried on most extensively in the Pacific Coast region. In the South, the outstanding change in method has been a shift toward smaller mills for operating closer to the timber and for processing smaller stands of timber than can be handled economically by large stationary mills. The authors of the study here reviewed express the opinion that the shift to smaller mills is only a temporary adjustment to increased difficulties and is to be regarded as a symptom rather than a solution of the problems created by timber depletion.

After the first decade of the present century, the main factor in the general decline of demand for lumber was the slowing up of agricultural expansion. The growth of towns and cities was accompanied by an expansion of building activities, but the prevalent multifamily dwellings required less floor space and utilized building materials other than lumber to a greater extent than single-family dwellings. There was also a tendency to displace lumber in urban construction other

¹ U. S. Work Projects Administration. National Research Project. Studies in Equipment Changes and Industrial Techniques, Report No. M-5: Mechanization in the Lumber Industry—A Study of Technology in Relation to Resources and Employment Opportunity, by Alfred J. Van Tassel, with the assistance of David W. Bluestone. Washington, 1940. A more extended discussion of this report was given in the *Monthly Labor Review*, July 1940 (p. 53).

A study of the lumber industry from a somewhat different point of view was published in the *Monthly Labor Review* of May 1937, entitled, "Labor Requirements in Lumber Production," by Bernard H. Topkis (reprinted as Serial No. R. 529).

than residences. In addition, there was a substitution of other materials for wood in various manufacturing industries, as fiber in the making of boxes and crates and metal in railroad cars and furniture.

Changes in Labor Productivity

In the production of a given volume of lumber or lumber products, a reduction in the amount of labor per unit of output (or an increase in the output per man-hour) means a smaller total employment. It is important, however, to note that a lowering of the cost of production, especially in a highly competitive industry, is an important factor in avoiding a loss of markets to other materials and in preventing a decline of employment resulting from loss of markets. The effectiveness of a reduction in the amount of labor required per unit in forestalling loss of markets and in maintaining production depends in large degree on price reductions such as may be warranted by a reduction of labor requirements.

There was a significant rise of output per man-hour in the industry as a whole from 1919 to 1936. The output per man-hour from 1931 to 1936 was on the average 16.4 percent higher than during the years 1925 to 1930, and 22.5 percent higher than during the years 1919 to 1924.

*Indexes of output per wage earner and per man-hour in the lumber and timber products industry, 1919-36*¹

[1925=100]

Period	Output per wage earner	Output per man-hour
1919-24.....	86.1	91.1
1925-30.....	95.4	95.9
1931-36.....	86.7	111.6

¹ Magdoff, Harry; Siegel, Irving H.; and Davis, Milton B.: Production, Employment and Productivity in 59 Manufacturing Industries, 1919-36 (WPA National Research Project, Report No. S-1, May 1939), part 2, p. 126. The 6-year averages presented above represent unweighted averages of the yearly index numbers.

The general increase in labor productivity was accompanied by a shift of production to areas of Douglas fir and western pine, which are processed with comparatively small amounts of labor. In the years from 1919 to 1924, Douglas fir contributed 22.7 percent of the total production of lumber, and western pine, 12.5 percent. During the years from 1931 to 1936, these proportions had increased to 29.0 percent and 17.7 percent. The amount of labor required per unit of output in 1935 for the production of timbers, yard lumber, and planing-mill lumber from southern pine was approximately twice as great as in production from Douglas fir, and was significantly greater in production from southern pine than from western pine.

The economic and social problems accompanying the methods of lumbering that have usually been employed have given rise to a prolonged effort to promote conservation and through improved methods of forest management to develop a system of sustained-yield logging. This balancing of cuttings by timber growth would

conserve not only the country's vital natural resources but would largely prevent the formation of groups of stranded populations in depleted areas. Lumbering on a sustained-yield basis would also have the advantages of facilitating permanent, continuing residence and employment for workers and the planning of community development and capital investment.

According to the report, "The effect of technical developments on future employment opportunities in the industry may well depend more on how the equipment is employed than on what particular equipment is developed and at what rate it is introduced."



Mining: Effects of Changes in Grades of Ore Upon Labor Productivity

Students of natural resources and of problems of conservation have frequently called attention to the declining quality of many natural resources in the United States. The causes are twofold—the tendency to utilize first the better and more readily accessible resources; and the wastefulness of the Nation's traditional mode of utilizing resources on an individualistic and uncontrolled basis. The progressive depletion of resources has been accompanied by the development of techniques to utilize lower grades of ore and by significant changes in labor productivity and employment. These topics are discussed, in relation to gold, silver, copper, lead, and zinc ores, in one of a series of studies by the Works Progress Administration in cooperation with the Bureau of Mines.¹

In the study of changes affecting nonferrous metal mining, it was found that—

Increased production of the principal nonferrous metal ores has been accompanied by a startling reduction in grade over the past 50 years. For example, approximately one-half of the Nation's copper production today comes from deposits that were known in 1900 but were then considered valueless because of their low metal content. Similarly, average yields worth \$5 to \$10 per ton obtained from gold and silver ores in recent years contrast with returns of from \$75 to \$100 or more per ton in the newly opened camps of the West in the 1870's and 1880's. Over as short a span as the past quarter century, the average yield obtained from lead ores fell 27 percent, and even greater declines in grade have been noted in important zinc-producing regions. Thus, metal mining has had to adjust itself to a lowering of grade of ore, and the success of this process has been one of the important victories of mineral technology. Despite decreasing richness of metal content per ton of ore, technical progress has produced net trends of increased abundance and rising output per worker for all of the major metals.

The depletion of richer or more readily accessible resources tends, of course, to reduce the productivity of labor used in the exploitation of the resources, and therefore gives added significance to technological improvements and accompanying increases in labor productivity.

¹ U. S. Works Progress Administration, in cooperation with U. S. Bureau of Mines. National Research Project. Reemployment Opportunities and Recent Changes in Industrial Techniques, Report No. E-6: Mineral Technology and Output per Man Studies: Grade of Ore, by Andrew V. Corry and O. E. Kiessling. Washington, 1938. A somewhat more extended discussion of this report was given in the Monthly Labor Review, January 1939 (p. 63).

Mining, Anthracite: Productivity of Labor

Productivity of anthracite-mine workers has increased slightly during recent years. At the same time, employment has declined. Production has followed an irregular course, as is shown in the following table for the years 1929 and 1934 to 1939.¹

Approximately 93,000 men were employed in anthracite mines in 1939. In that year the total production was 51,487,388 tons, of which 1,881,884 tons were cut by machines, 5,486,479 tons were mined by stripping, and 11,773,833 tons were loaded by machines underground. These figures are included in the annual statistical summary for the industry made by the United States Bureau of Mines.

Labor and production statistics of the anthracite mining industry, 1929 and 1934 to 1939

Item	1929	1934	1935	1936
Production.....net tons	73,828,195	57,168,291	52,158,783	54,579,535
Average number of days worked.....	225	207	189	192
Average number of men employed.....	151,501	109,050	103,269	102,081
Output per man per day.....net tons	2.16	2.53	2.68	2.79
Output per man per year.....do	487	525	505	535
Quantity cut by machines.....do	1,159,910	1,981,088	1,848,095	2,162,744
Quantity mined by stripping.....do	1,911,766	5,798,138	5,187,072	6,203,267
Quantity loaded by machines underground.....do	3,470,158	9,284,486	9,279,057	10,827,946

Item	1937	1938	1939 ¹
Production.....net tons	51,856,433	46,099,027	51,487,388
Average number of days worked.....	189	171	183
Average number of men employed.....	99,085	96,417	93,138
Output per man per day.....net tons	2.77	2.79	3.02
Output per man per year.....do	523	478	553
Quantity cut by machines.....do	1,984,512	1,588,407	1,881,884
Quantity mined by stripping.....do	5,696,018	5,095,341	5,486,479
Quantity loaded by machines underground.....do	10,683,837	10,151,669	11,773,833

¹ From U. S. Bureau of Mines, Minerals Yearbook Review of 1940.



Mining, Bituminous Coal: Mechanization

As much as half of the annual underground production of bituminous coal in the United States may be loaded mechanically within the next 10 years, as compared with an estimated one-fourth of the output so loaded in 1938, according to a study by the Work Projects Administration.² Since shoveling coal into mine cars requires from 50 to 60 percent of the total force in a bituminous mine, the change from hand to machine loading has great significance in raising the output of mine labor and also in reducing the employment opportunities involved in producing a given quantity of product.

¹ U. S. Bureau of Mines, Pennsylvania Anthracite, by M. Van Sicken, L. Mann, and J. R. Bradley. (Reprinted from Minerals Yearbook 1939, Review of 1938, 1939, and 1940.)

² U. S. Work Projects Administration in cooperation with U. S. Bureau of Mines, National Research Project, Mechanization, Employment, and Output per Man in Bituminous-Coal Mining, by Willard E. Hotchkiss and others, Philadelphia, 1939. (2 vols.) A more extended discussion of this report was given in the Monthly Labor Review for February 1940 (p. 341).

Although analysis of data for individual mining areas shows significant differences in natural conditions and technology, for the country as a whole there have been outstanding advances in mechanized loading and strip mining since 1935.

The following discussion deals with mechanized loading. If the conditions are favorable, strip mining is more advantageous in man-hour output than deep mining, even in low-wage areas, and it would doubtless have grown in importance even if wages had not been raised. Nevertheless, the general competitive advantage of strip mining over deep mining has been intensified because of the increase in wages in areas supplying the largest part of the bituminous-coal output.

The percentage distribution of bituminous coal mechanically loaded, by regions, for 1930 and 1935 to 1937, is shown in the accompanying table.

Percentage distribution of bituminous coal mechanically loaded, by region, 1930 and 1935-37

Region	Percent of bituminous coal mechanically loaded in—			
	1930	1935	1936	1937
United States.....	100.0	100.0	100.0	100.0
Middle West and Southwest.....	58.2	57.4	51.0	44.4
Middle West (Illinois, Indiana, west Kentucky, Missouri, and Iowa).....	57.5	56.7	50.2	43.7
Southwest (Arkansas and Oklahoma).....	.7	.7	.8	.7
Appalachian.....	25.9	23.6	31.9	40.0
Northern (Pennsylvania, Ohio, and Maryland).....	18.3	17.2	16.8	18.4
Southern (West Virginia, Virginia, east Kentucky, and Tennessee).....	7.6	6.4	15.1	21.6
Alabama.....	4.4	2.8	2.6	2.5
Rocky Mountain (Wyoming, Montana, Washington, North Dakota, Colorado, Utah, and New Mexico).....	11.5	16.2	14.5	13.1

In spite of significant advances in new areas (as for example, West Virginia, where mechanically loaded coal in 1937 was seven and a half times that for 1935), the States in which machine loading was concentrated before 1935 also continued to increase their ratio of machine-loaded to hand-loaded tonnage in 1936 and 1937. For Illinois the increase was from 55.3 percent of the underground product in 1935 to 70.7 in 1937, in Indiana from 62.5 to 80.6, and in Wyoming from 89.8 to 92.1 percent. In Montana there was a slight decline.

The raising of wages in low-wage areas has a greater effect on mechanization of deep mines than of strip mines. Recent increases in the amount of mechanical loading in West Virginia and other areas where wages were raised directly reflect the wage changes. The competition from eastern areas where large tonnages are mechanically loaded tends to stimulate further mechanization elsewhere. Labor standards, flexibility of management, types of equipment, and the physical conditions under which these forces operate affect productivity and are likely to continue to do so. However, the rapid increase in mechanized loading both extensively and intensively in recent years has affected productivity markedly.

Intensive advance is exemplified by the transition from pit-car to mobile loaders in Illinois and Indiana. Introduction of newer and smaller designs of mobile loaders to replace hand-loaded conveyors is another. Any change whereby machinery is substituted for man-power represents intensive mechanization. Of the different kinds of installations, mobile loaders are showing the greatest gains and pit cars the greatest loss.

The bituminous industry has a productive capacity far in excess of prospective demand. Economic forces are likely to increase business for the stronger mines and give no relief to the weaker ones. The history of industry shows that a reduction of costs through mechanization is an irresistible urge. Mechanized loading is only one step in improving technology in the bituminous mines. As it is extended and productivity of workers increases, it is inevitable that either production must expand or the volume of employment as measured in total man-hours must decline. The number of jobs available would have declined much more sharply than it did if employment policies had not been adopted which involved both temporary and permanent reductions in working hours per day and week.

Human adjustments must accompany technological changes, and operators who installed mechanical loaders in cooperation with workers found this policy advantageous, according to the report. The least disturbance occurred in mines where mechanization progressed at a pace which obviated the need for displacing individual workers. The greatest loss of jobs comes to employees in high-cost mines which are either forced out of business or lose orders because of their competitive disadvantages. Employment opportunity is greater in the best equipped and managed mines.



Mining, Bituminous Coal: Productivity of Labor¹

Productivity of bituminous-coal labor has increased each year since 1934, when the 7-hour workday was established for the industry, according to data published by the Bituminous Coal Division of the United States Department of the Interior.² Mechanization has also been extended underground. The movement of employment and production has shown no regularity from year to year. Preliminary figures show that employment declined 1 percent in 1939 as compared with the preceding year, although output rose 12.8 percent in the same period. Production, the average number of men employed, average number of days the mines operated, output of workers, and related factors for the industry in 1929 and 1934-39, inclusive, are shown in the following table.

¹ From the Monthly Labor Review for January 1941.

² U. S. Department of the Interior. Bituminous Coal Division. Bituminous Coal Tables, 1938-39. Washington, October 1940.

Labor and production statistics of the bituminous-coal industry, 1929 and 1934-39

Item	1929	1934	1935	1936
Production.....net tons..	534,988,593	359,368,022	372,373,122	439,087,903
Total number of active mines—over 1,000 tons.....	6,057	6,258	6,315	6,875
Average number of men employed.....	502,993	458,011	462,403	477,204
Average number of days mines operated.....	219	178	179	199
Nominal length of established full-time week...hours..	48.5	{ 40.0 35.1 }	35.1	35.1
Output per man per day.....net tons..	4.85	4.40	4.50	4.62
Output per man per year.....do.....	1,064	785	805	920
Underground output cut by machine.....percent..	78.4	84.1	84.2	84.8
Underground output mechanically loaded.....do.....	7.4	12.2	12.7	16.3
Quantity mined by stripping.....net tons..	20,268,099	20,789,641	23,647,292	28,125,857
Quantity cleaned by wet or pneumatic process...do....	32,271,950	35,853,714	39,511,176	53,332,040

Item	1937	1938	1939 (preliminary)
Production.....net tons..	445,531,449	348,544,764	393,065,000
Total number of active mines—over 1,000 tons.....	6,548	5,777	(1)
Average number of men employed.....	491,864	441,333	437,000
Average number of days mines operated.....	193	162	(1)
Nominal length of established full-time week...hours..	35.1	35.1	(1)
Output per man per day.....net tons..	4.69	4.89	(1)
Output per man per year.....do.....	906	790	(1)
Underground output cut by machine.....percent..	(1)	87.5	(1)
Underground output mechanically loaded.....do.....	20.2	26.7	(1)
Quantity mined by stripping.....net tons..	31,750,853	30,406,855	(1)
Quantity cleaned by wet or pneumatic process...do....	(1)	57,998,341	(1)

¹ Data not available.

The method used by the Bituminous Coal Division in calculating employment gives an accurate measure of the working force, i. e., the average number of men on the rolls on days of mine operation. It does not furnish any information on working time lost through intermittent operations. A special problem in recording employment has arisen in recent years as a result of introducing "share-the-work" agreements, by which employees of a mine are divided into two groups working alternate days. Inquiries as to such agreements in one State—Illinois—disclosed that the employment figures would have been increased by about 8 percent if they had been based on the number of men on the pay rolls rather than the average number of men working. Therefore, the "number of men employed," as given in this report, is somewhat less than the total of all men on the rolls of bituminous-coal mines in States that followed the practice of spreading employment by means of share-the-work programs.

Comparing conditions in 1937 and 1938, the number of active mines declined from 6,548 to 5,777 and the average number of days of mine operation dropped from 193 to 162. Output per man per day rose from 4.69 to 4.89 tons. Certain increases in mechanization also occurred. For example, the output mechanically loaded increased from 20.2 percent of the underground product in 1937 to 26.7 percent in 1938. Data available early in 1940, the report here reviewed states, indicate continuation of the sharp advance in mechanical loading in 1939. Sales of mechanical-loading equipment for use in the mines (in terms of total capacity) increased 21.4 percent in 1939 over 1938. Of the 85,092,836 tons of bituminous coal mechanically loaded in 1938, 23,363,426 tons were mined in Illinois, 20,530,906 tons in West Virginia,

and 12,090,021 tons in Pennsylvania. These three States accounted for nearly two-thirds of the total product mechanically loaded during the year.

Advance statistics show that there was an increase of approximately 20 percent in the bituminous-coal tonnage mined by stripping in 1939 as compared with 1938. Strip-mine production declined from 31,750,853 tons in 1937 to 30,406,855 in 1938, but the smaller volume represented 8.7 percent of the total output in 1938 as compared with 7.1 percent of the total a year earlier.

Basing the conclusion on installations of new coal-cleaning plants in 1939, the report states that there was a substantial gain in mechanically cleaned coal in 1939 over the tonnage cleaned by mechanical methods in 1938.

The Bituminous Coal Division estimates that as of 1938 the capacity of the active mines with the then existing labor force would have been 663,000,000 tons per year of 308 days; and per year of 261 days (5-day-week basis) 562,000,000 tons. Thus, on the latter basis, capacity was about 62 percent greater than actual production.



Mining, Copper: Labor Productivity and Employment ¹

The employment of wage earners in copper mines attained its maximum in 1917, when more than 61,000 workers were employed. This number was not materially larger than the number in 1913, before the outbreak of the World War, when more than 56,000 were employed. The extreme variability of employment in copper mining is indicated by the decline in number of workers to about 18,000 in 1921, a year of business recession, and to only about 7,000 in the depression year of 1933. Employment was affected by technological changes and the reduction of the amount of labor required per unit produced. Although the production of ore as measured by the amount of recoverable copper was greater in 1929 than in 1917, the number of workers in 1929 was only 37,000, in contrast with 61,000 in 1917.

Production is directly in the form of ore, but the ultimate measure of production is the copper itself. The productivity of labor may be measured in terms either of the amount of ore produced or of the amount of copper recoverable from the ore. The general trend in each case has been sharply upward, but there are important differences. The output of copper ore and tailings per man-shift almost quadrupled between 1880 and 1911, rising from 0.556 to 2.177 short tons, and during the same period the man-shift output of copper recoverable increased about two and one-half times—from 30.974 to 79.505 pounds. Beginning in 1911, estimates of man-hours are available, making possible estimates of output per man-hour. The man-hour output of ore and tailings increased 305.9 percent from 1911 to 1936, with recessions during periods of sharply curtailed production, as in

¹ U. S. Work Projects Administration. National Research Project. Mineral Technology and Output Per Man Studies, Report No. E-12; Technology, Employment, and Output Per Man in Copper Mining, by Y. S. Leong, Emil Erdreich, J. C. Burritt, O. E. Kiessling, C. E. Nighman, and George C. Heikes. Washington, 1940. A more extended discussion of this report was given in the *Monthly Labor Review*, July 1940 (p. 50).

1919 and 1921 and from 1932 to 1934. The man-hour output of copper recoverable increased 246.9 percent from 1911 to 1936, with slight recessions in certain years, which were not always years of declining total production.

*Production, employment, and labor productivity in copper mining, 1880-1936*¹

Year	Production		Employment		Output per man-hour of—	
	Copper ore and tailings, sold or treated (short tons)	Copper recoverable (pounds)	Average number of wage earners	Man-hours	Copper ore and tailings (short tons)	Copper recoverable (pounds)
1880.....	1,007,490	56,115,454	6,039	(?)	(?)	(?)
1889.....	3,322,742	220,569,438	9,750	(?)	(?)	(?)
1902.....	11,780,064	625,004,529	23,344	(?)	(?)	(?)
1911.....	29,988,235	1,095,131,104	44,693	110,194,600	0.272	9.938
1912.....	35,656,414	1,215,956,054	51,776	126,650,000	.282	9.601
1913.....	36,336,682	1,213,247,830	56,139	138,954,128	.262	8.731
1914.....	35,175,541	1,127,258,546	44,686	102,760,464	.342	10.970
1915.....	43,404,182	1,453,912,379	47,174	113,691,200	.382	21.788
1916.....	57,863,365	1,969,403,226	61,228	151,457,136	.382	13.003
1917.....	59,213,237	1,866,079,144	61,275	152,684,504	.282	12.222
1918.....	63,004,076	1,881,054,874	59,447	152,833,424	.412	12.328
1919.....	37,037,281	1,191,292,206	39,327	94,851,928	.390	12.559
1920.....	38,143,870	1,201,686,812	35,254	89,456,952	.426	13.433
1921.....	13,396,382	455,707,733	18,300	35,690,368	.375	12.768
1922.....	26,893,247	947,299,105	25,739	60,039,864	.448	15.778
1923.....	45,544,558	1,449,780,217	32,477	82,451,728	.552	17.583
1924.....	49,272,382	1,585,020,296	32,477	81,821,160	.602	19.372
1925.....	53,195,376	1,650,291,482	33,266	83,366,424	.638	19.796
1926.....	57,280,775	1,690,042,707	32,723	84,095,792	.681	20.097
1927.....	56,794,178	1,615,927,676	30,724	77,002,536	.738	20.985
1928.....	62,097,903	1,774,119,686	30,561	79,205,176	.784	22.399
1929.....	68,421,853	1,961,560,104	37,147	95,869,696	.714	20.461
1930.....	47,381,509	1,385,168,759	27,692	66,001,896	.718	20.987
1931.....	34,248,203	1,042,531,163	19,687	41,019,314	.835	25.416
1932.....	12,320,194	464,856,952	9,555	18,608,421	.662	24.981
1933.....	8,387,612	308,224,716	6,976	13,471,547	.623	27.334
1934.....	11,723,638	457,646,425	8,084	14,726,617	.796	31.076
1935.....	19,112,054	737,777,584	10,188	22,293,255	.857	33.094
1936.....	38,514,245	1,203,201,887	14,102	34,900,287	1.104	34.475

¹ Compiled from National Research Project Report No. E-12, which contains references to sources and discussions of the approximate nature of much of the data. For example, if employment in mills and ore-dressing establishments as well as in mining could be included, the figures of labor productivity would show a significantly smaller increase.

² Not available.

Thus, the causes of variations in man-hour output are not the same when output is measured in ore produced as when it is measured in copper recoverable from the ore. For example, when the demand for copper falls off sharply, the production of ore is more largely restricted to the richer grades, and these require more mining labor per ton of ore but less mining, milling, and smelting labor per ton of copper recoverable from the ore, as is explained below.

Technological changes have been the main causes of rising labor productivity. These changes are summarized as follows:

The introduction of the open-cut and undercut block-caving methods in the twentieth century for exploiting porphyry deposits has been the most important event in the history of copper mining. It has permitted the mining of large bodies of low-grade ores hitherto regarded as non-ores and consequently has greatly augmented the copper reserves of the country. As these two methods are

more productive than any of the others, the increase in the volume of production by open-cut mining and block caving has been the most influential factor in raising the output per worker in the copper-mining industry. The modern method of open-cut mining with power shovels was borrowed from the iron-mining industry, where it had been in use since the eighties. The development of modern, undercut, block-caving methods, however, is one of the major contributions of the copper-mining industry.

Improvements in mining methods as applied to underground-vein mines have consisted mainly of modifying existing techniques or adopting the advanced practices developed in other mining industries. For example, mining methods have been altered so as to take fuller advantage of the force of gravity. In some systems gravity is relied upon to crush the ore and convey it to a point where it is loaded into cars. In others it is utilized to transport the broken ore to chutes or bins and to fill workings from which the ore has been removed with waste material. Another instance in point is the adoption of the retreating system of mining in place of the advancing system, whereby a considerable saving in maintenance labor and expense has been effected.

Changes in methods of ore dressing after the ore is mined have increased the productivity of mining labor by making profitable the processing of ores that are of lower grade but more easily mined; but the processing of the lower-grade ores has tended to reduce the productivity of labor in mills and ore-dressing plants. Before 1902, the ore was of such high grade as to require little milling or dressing. If all labor (mill as well as mining labor) could be included in the computation of labor productivity (see the accompanying table), the average output of mining and mill labor combined would be significantly smaller after the shift to low-grade ores than for mining labor alone.

The shifts in location of the copper-mining industry have been a vitally important feature of the industry. At one time, the Lake Superior region produced about four-fifths of the total output of the country. Between 1887 and 1907 the Montana area produced more copper than the Michigan deposits of the Lake Superior area. In 1907, Arizona supplanted Montana as the principal producing area, and important workings were developed also in Utah, Nevada, New Mexico, and Alaska.



Mining, Iron: Technological Changes and Employment Opportunities

The amount of merchantable iron ore produced per man-hour rose from 0.526 gross ton in 1915 to 1.402 tons in 1937, an increase of 167 percent, according to a study by the Work Projects Administration.¹ The total amount of merchantable ore produced rose from 55,526,000 tons in 1915 to 72,094,000 tons in 1937, an increase of 30 percent. The increase in production, combined with reductions in hours of work, in part counterbalances the increase in output per man-hour, but the number of workers employed in 1937 was only 25,945, in contrast to 43,385 in 1915.

¹ U. S. Work Projects Administration. National Research Project. *Mineral Technology and Output Per Man Studies*, Report No. E-13: Technology, Employment, and Output Per Man in Iron Mining, by N. Yaworski, O. E. Kiessling, C. H. Baxter, Lucien Eaton, and E. W. Davis. Washington, 1940. A more extended discussion of this report was given in the *Monthly Labor Review* for October 1940 (p. 883).

*Estimated production, employment, and average output in iron mines and beneficiating plants in the United States, 1880 to 1937*¹

Year	Production (thousands of gross tons)			Employment		
	Crude ore	Merchantable ore		Average number of workers	Shifts per man	Hours per man-shift
		Gross amount	Iron (natural) content			
1880.....	(?)	7,120	3,648	35,000	231	(?)
1889.....	(?)	14,518	7,443	36,341	248	(?)
1902.....	(?)	35,554	(?)	44,800	260	(?)
1915.....	60,882	55,526	(?)	43,385	272	8.9
1916.....	82,161	75,168	(?)	57,049	274	9.0
1917.....	82,869	75,289	(?)	60,594	280	9.1
1918.....	77,447	69,658	(?)	55,674	293	9.1
1919.....	67,612	60,965	(?)	51,780	280	9.1
1920.....	75,514	67,604	(?)	50,590	287	9.2
1921.....	33,246	29,491	(?)	32,348	209	9.1
1922.....	53,736	47,129	(?)	35,758	250	8.9
1923.....	80,670	69,351	34,970	41,294	286	9.1
1924.....	61,459	54,267	27,082	38,765	263	9.0
1925.....	70,475	61,908	31,091	35,757	270	8.9
1926.....	75,944	67,623	34,099	34,399	273	9.0
1927.....	69,923	61,741	30,880	34,755	264	8.9
1928.....	70,941	62,197	31,150	30,238	265	8.9
1929.....	83,165	73,028	36,638	30,763	281	8.9
1930.....	68,552	58,409	29,365	30,975	259	8.9
1931.....	35,564	31,132	15,625	22,867	201	8.9
1932.....	11,182	9,847	4,948	12,649	145	9.0
1933.....	21,226	17,553	8,778	15,125	140	8.5
1934.....	28,253	24,588	12,384	16,513	193	8.0
1935.....	35,368	30,540	15,362	14,987	219	8.0
1936.....	54,856	48,789	24,684	20,306	227	8.1
1937.....	80,906	72,094	36,411	25,945	247	8.0

Year	Average output (gross tons)								
	Crude ore			Merchantable ore					
				Gross amount			Iron (natural) content		
	Per worker	Per man-shift	Per man-hour	Per worker	Per man-shift	Per man-hour	Per worker	Per man-shift	Per man-hour
1880.....	(?)	(?)	(?)	203	0.882	(?)	104	0.452	(?)
1889.....	(?)	(?)	(?)	399	1.613	(?)	205	.827	(?)
1902.....	(?)	(?)	(?)	794	3.052	(?)	(?)	(?)	(?)
1915.....	1,403	5.156	0.577	1,280	4.702	0.526	(?)	(?)	(?)
1916.....	1,440	5.254	.584	1,318	4.807	.534	(?)	(?)	(?)
1917.....	1,368	4.883	.540	1,243	4.437	.490	(?)	(?)	(?)
1918.....	1,391	4.751	.521	1,251	4.273	.469	(?)	(?)	(?)
1919.....	1,306	4.670	.516	1,177	4.211	.465	(?)	(?)	(?)
1920.....	1,493	5.194	.566	1,336	4.650	.507	(?)	(?)	(?)
1921.....	1,028	4.926	.544	912	4.369	.482	(?)	(?)	(?)
1922.....	1,503	6.001	.676	1,318	5.263	.593	(?)	(?)	(?)
1923.....	1,954	6.838	.750	1,679	5.878	.645	847	2.964	0.325
1924.....	1,585	6.024	.673	1,400	5.319	.594	699	2.655	.297
1925.....	1,971	7.291	.816	1,731	6.405	.717	870	3.217	.360
1926.....	2,208	8.033	.902	1,966	7.197	.803	991	3.629	.405
1927.....	2,012	7.619	.853	1,776	6.727	.753	889	3.365	.377
1928.....	2,346	8.858	.994	2,057	7.766	.871	1,030	3.889	.436
1929.....	2,703	9.628	1.079	2,374	8.454	.947	1,191	4.241	.475
1930.....	2,213	8.529	.957	1,886	7.267	.816	948	3.654	.410
1931.....	1,555	7.737	.869	1,361	6.773	.761	683	3.399	.382
1932.....	884	6.117	.681	778	5.387	.599	391	2.707	.301
1933.....	1,403	10.005	1.184	1,161	8.274	.979	580	4.137	.490
1934.....	1,711	8.867	1.109	1,489	7.717	.965	750	3.887	.486
1935.....	2,360	10.789	1.346	2,038	9.317	1.162	1,025	4.686	.685
1936.....	2,701	11.880	1.473	2,403	10.566	1.310	1,216	5.346	.663
1937.....	3,118	12.648	1.574	2,779	11.270	1.402	1,403	5.692	.708

¹ Source: See pp. 206-215 of reference cited in footnote 1, p. 825. The table there given includes similar estimates for principal mining areas, gives bibliographical data, and explains the methods used and the limitations of the available data. Employment excludes administrative and clerical workers.

² Not available.

Changes in output per man-hour are affected in such an industry as iron mining by the depletion of the richer and more readily accessible ore deposits and the opening up of new areas of production, as well as by technological changes and variations in the volume of production. The extreme fluctuations in volume of production in iron mining obviously affect the amount of labor required per unit because of such factors as the relatively high proportion of overhead labor and the difficulty of using the most efficient mass-production methods when production is at a low level. During the period as a whole, however, the upward trend of man-hour output was largely a reflection of technological changes. These changes included improvements in drilling, blasting, and haulage methods, the introduction of mechanical loading at underground mines, the improvement of loading devices at open-pit mines, the use of caterpillar traction, and the substitution of electric power for steam. Other factors that tended to increase man-hour output included the shift to open-pit mining and the tendency toward the concentration of production in larger mines and in areas with higher productivity.

Changes both in the number of shifts per man and in the number of hours per man-shift are additional factors that affect output per worker.

The conditions affecting employment in iron mining indicate that no large increase in employment in this industry can be expected, even under conditions of expanding demand for iron for the armaments program.

So long as production expanded at a faster rate than output per man, employment continued to increase. But the growth of iron-ore production reached a turning point during the second decade of this century. Employment at iron mines was at its peak in 1917. Today, the Nation's iron-ore requirements can be supplied by fewer than half the number of workers needed 20 years ago, and the trends in the factors which have made this possible are continuing. One of these factors is that the demand for iron ore has slackened because of a retardation in the growth of iron and steel production. Another important factor is the increased use of scrap. Unlike the product of almost all other industries, the product of metal mines is not entirely destroyed in consumption but can be used repeatedly. It has been estimated that about two-thirds of the iron that finds its way into iron and steel products returns after 10 to 30 years in the form of scrap and is available for re-use in a much purer form than iron ore. The total stock of iron and steel goods is being constantly augmented and represents a growing potential source of iron and steel scrap that may be used in place of iron ore. The old ferrous scrap consumed annually in the iron and steel industry during 1935-38 had an iron content equivalent to about 29 million tons of iron ore which, had it been mined at the prevailing average labor productivity, would have required the work of about 12,500 men.

The general downward tendency of employment opportunities in iron mining is complicated by the exceptional irregularity of employment and by the scarcity of other types of work in the mining areas.

Petroleum and Natural-Gas Production: Man-Hour Output and Employment ¹

A notable feature of the petroleum and natural-gas industry is the rapidity with which it has risen to a place of great importance in our national economy. From the commercial beginning of each division of the industry down to the time of the depression beginning in 1929, production showed an almost uninterrupted increase. The rate of growth, moreover, was rapid, and the period of greatest expansion was the post-war decade, when the growth of production of other minerals was slowing down. During this period, output in all branches of the petroleum and natural-gas industry more than doubled (see table 1). Even the depression served only as a temporary check. In 1937, with the exception of natural-gasoline extraction, production exceeded all previous records in each of the major divisions of the industry.

As a result of this remarkable growth, the petroleum and natural-gas industry, measured in terms of value of products, now ranks as the country's most important mineral industry. In 1937 the value of the crude petroleum, natural gas, and natural gasoline produced totaled \$1,733,922,000—more than 60 percent above the combined value of anthracite and bituminous coal and more than a third of the total value of all minerals. Measured in the same way, oil refining ranks among the five leading manufacturing industries of the country.

TABLE 1.—Long-time trends of production in the petroleum and natural-gas industry, 1880-1937

Year	Crude petroleum ¹		Natural gas		Oil refineries ¹		Natural gasoline	
	Number of wells at end of year	Production (thousands of barrels)	Number of wells at end of year	Marketed production (millions of cubic feet)	Number of plants	Crude oil run to stills (thousands of barrels)	Number of plants	Production (thousands of gallons)
1880.....	18, 634	26, 286	(?)	(?)	86	17, 417	(?)	(?)
1889.....	21, 833	35, 164	2, 247	250, 000	94	30, 663	(?)	(?)
1899.....	69, 673	57, 071	(?)	(?)	67	52, 011	(?)	(?)
1900.....	78, 745	63, 621	(?)	(?)	(?)	(?)	(?)	(?)
1901.....	85, 111	69, 389	(?)	(?)	(?)	(?)	(?)	(?)
1902.....	92, 371	88, 767	14, 556	281, 000	(?)	(?)	(?)	(?)
1903.....	101, 182	100, 461	(?)	(?)	(?)	(?)	(?)	(?)
1904.....	110, 928	117, 081	(?)	(?)	98	66, 983	(?)	(?)
1905.....	115, 943	134, 717	(?)	(?)	(?)	(?)	(?)	(?)
1906.....	122, 590	126, 494	17, 226	388, 843	(?)	(?)	(?)	(?)
1907.....	133, 040	166, 095	20, 468	406, 622	(?)	(?)	(?)	(?)
1908.....	141, 453	178, 527	22, 709	402, 141	(?)	(?)	(?)	(?)
1909.....	146, 736	183, 171	24, 734	480, 706	147	120, 775	(?)	(?)
1910.....	418, 619	209, 557	27, 305	509, 155	(?)	(?)	(?)	(?)
1911.....	150, 793	220, 449	28, 978	512, 993	(?)	(?)	176	7, 426
1912.....	155, 046	222, 935	30, 905	562, 203	(?)	(?)	250	12, 081
1913.....	170, 774	248, 446	33, 345	581, 898	(?)	(?)	341	24, 061
1914.....	180, 177	265, 763	35, 291	591, 867	176	191, 263	386	42, 653
1915.....	181, 317	281, 104	36, 546	628, 579	(?)	(?)	414	65, 365
1916.....	192, 108	300, 767	37, 997	753, 170	(?)	(?)	596	103, 493
1917.....	199, 319	335, 216	39, 283	795, 110	(?)	(?)	886	217, 884
1918.....	207, 815	358, 928	40, 369	721, 001	(?)	(?)	1, 004	282, 536
1919.....	228, 084	378, 367	(?)	745, 916	320	365, 272	1, 191	351, 535

See footnotes at end of table.

¹ Summary of article in Monthly Labor Review for July 1939 (p. 39), based on Chapter II of a study (Technology, Employment, and Output per Man in Petroleum and Natural-Gas Production, by O. E. Kiessling, H. O. Rogers and others), made by the National Research Project of the Work Projects Administration in cooperation with the U. S. Bureau of Mines.

TABLE 1.—Long-time trends of production in the petroleum and natural-gas industry, 1880-1937—Continued

Year	Crude petroleum ¹		Natural gas		Oil refineries ¹		Natural gasoline	
	Number of wells at end of year	Production (thousands of barrels)	Number of wells at end of year	Marketed production (millions of cubic feet)	Number of plants	Crude oil run to stills (thousands of barrels)	Number of plants	Production (thousands of gallons)
1920.....	268, 247	442, 929	(?)	798, 210	(?)	(?)	1, 154	384, 744
1921.....	274, 500	472, 183	(?)	662, 052	366	443, 363	1, 058	449, 934
1922.....	284, 880	557, 531	(?)	762, 546	(?)	(?)	917	505, 832
1923.....	290, 100	732, 407	(?)	1, 006, 976	382	581, 238	1, 067	816, 226
1924.....	299, 100	713, 940	(?)	1, 141, 521	(?)	(?)	1, 096	933, 861
1925.....	306, 100	763, 743	(?)	1, 188, 571	359	739, 920	1, 081	1, 127, 470
1926.....	318, 600	770, 874	(?)	1, 313, 019	(?)	(?)	1, 102	1, 363, 090
1927.....	323, 300	901, 129	(?)	1, 445, 428	354	828, 835	1, 119	1, 641, 144
1928.....	327, 800	901, 474	(?)	1, 568, 139	(?)	(?)	1, 078	1, 814, 034
1929.....	328, 200	1, 007, 323	53, 545	1, 917, 693	390	987, 708	1, 087	2, 233, 688
1930.....	331, 070	898, 011	55, 020	1, 943, 421	(?)	(?)	1, 035	2, 210, 494
1931.....	315, 850	851, 081	55, 756	1, 686, 436	376	894, 608	937	1, 831, 918
1932.....	321, 500	785, 159	54, 160	1, 555, 990	(?)	(?)	830	1, 523, 800
1933.....	326, 850	905, 656	53, 660	1, 555, 474	389	461, 254	779	1, 420, 000
1934.....	333, 070	908, 065	54, 130	1, 770, 721	(?)	(?)	766	1, 535, 360
1935.....	340, 990	996, 596	53, 790	1, 916, 595	395	966, 243	715	1, 651, 986
1936.....	349, 450	1, 099, 687	53, 960	2, 167, 802	(?)	(?)	700	1, 796, 340
1937.....	363, 030	1, 279, 160	54, 440	³ 2, 447, 620	365	1, 183, 440	696	2, 065, 434

¹ Data for establishments with products under \$5,000 in value included for 1919 and prior years, but not for 1921 and subsequent years. Census data are limited to those establishments which refine crude petroleum by the process of distillation, therefore establishments are excluded that compound refined or partly refined petroleum products and that produce gasoline at the wells. Statistics of the industry as so defined were first collected in 1880.

² Data not available.

³ Preliminary, subject to revision.

Trend of Employment

The trend of employment in the oil and natural-gas industry was consistently upward through the boom year 1929. From the beginning total labor requirements grew rapidly, both absolutely and in relation to the working population as a whole. Although employment reached a high point in 1929, the most rapid increase took place during the war decade.

With reference to the drop in employment that occurred with the onset of the business depression, it appears that the decline was less sharp than in most other branches of mining. The downward movement reached a low in 1932, and by 1935 a substantial proportion of the depression losses had been recovered. From 1935 to 1937 employment showed further important gains; over this period the number of men employed directly in primary phases of petroleum, natural-gas, and natural-gasoline production, for example, increased about 17 percent, and the man-hours worked by the same group showed a gain of about 34 percent. Over the same years the average number of wage earners employed and man-hours worked in refining establishments increased 7 and 9 percent, respectively. Recovery of employment in pipe-line transportation between 1935 and 1937 was also indicated by an increase of 17 percent in the number of wage earners employed by oil pipe lines that reported to the Interstate Commerce Commission.

Since data are inadequate for the compilation of a long-time statistical series on over-all employment covering every department of the oil and gas industry, the course of employment trends is best observed by noting developments in the principal segments of the industry for which statistical series can be developed. This is done

in tables 2, 3, and 4, which present available indicators of employment in primary production, petroleum refining, and pipe-line transportation.

TABLE 2.—*Wage earners employed in petroleum, natural-gas, and natural-gasoline production in the United States, 1880 to 1937*

Year	Wage earners employed by regular producers ¹			Wage earners employed by contractors		Total	
	Average number	Estimated man-hours worked (thousands)	Estimated man-hours per wage earner	Estimated man-hours worked (thousands)	Estimated number of wage earners ²	Estimated number of wage earners	Estimated man-hours worked (thousands)
1880.....	(3)	(3)	(3)	(3)	(3)	11,477	41,317
1889.....	12,500	44,967	3,597	22,359	6,000	18,500	67,326
1902.....	23,000	81,824	3,538	41,000	10,400	33,400	122,824
1909.....	36,749	111,488	3,034	29,394	10,900	46,749	140,882
1919.....	93,205	290,345	2,471	44,958	18,000	111,205	275,303
1929.....	142,000	323,032	2,310	85,288	37,000	179,000	413,320
1935.....	108,735	187,727	1,726	48,533	28,000	136,735	236,260
1936.....	119,100	228,633	1,920	59,445	31,000	150,100	288,078
1937.....	126,800	250,733	1,977	65,191	33,000	159,800	315,924

¹ Excludes nonproducing enterprises, as represented by enterprises reporting employment but no production.

² All figures, except the one for 1902, were rounded to the nearest thousand. These estimates represent the number of wage earners that are equivalent to the number working the same number of hours per year as were worked by wage earners employed by regular producers. Inasmuch as the latter probably work more continuously than contractors' employees, the actual number of wage earners employed by contractors may be somewhat higher than the estimates indicate.

³ Data not available.

⁴ Derived by subtracting 37,000, the estimated number of wage earners employed by contractors, from 179,000, the estimated number of wage earners employed by both regular producers and contractors.

⁵ Derived by dividing the estimated total man-hours worked by wage earners employed by both regular producers and contractors by 179,000, the estimated total number of wage earners employed.

⁶ Estimated by subtracting from the number of wage earners attached to the industry (as reported by the Census of Occupations for April 1930) the number of unemployed wage earners (as derived from the number of unemployed persons reported by the Unemployment Census for April 1930). The result was then corrected to represent 1929, by the use of Bureau of Labor Statistics indexes of crude-petroleum employment, and was also corrected for the estimated amount of understatement by the Census of Occupations.

TABLE 3.—*Barrels of crude oil run to stills, wage earners employed, and barrels refined per wage earner in petroleum refining, 1880 to 1937*

Year	Crude oil run to stills (thousands of 42-gallon barrels)	Employment of wage earners		Barrels of crude oil refined per—	
		Average number	Estimated man-hours worked	Man-year	Man-hour
1880.....	17,417	9,869	(1)	1,765	(1)
1889.....	30,663	11,403	(1)	2,689	(1)
1899.....	52,011	12,199	(1)	4,264	(1)
1904.....	66,983	16,770	(1)	3,994	(1)
1909.....	120,775	13,929	42,010,000	8,671	2.9
1914.....	191,263	25,366	73,866,000	7,540	2.6
1919.....	365,272	58,889	154,643,000	6,203	2.4
1921.....	443,363	63,189	166,591,000	7,016	2.7
1923.....	581,238	66,717	173,811,000	8,712	3.3
1924.....	643,719	62,301	162,954,000	10,332	4.0
1925.....	739,920	65,324	171,541,000	11,327	4.3
1926.....	779,264	71,811	189,323,000	10,852	4.1
1927.....	828,835	72,234	188,642,000	11,635	4.4
1928.....	913,295	67,862	180,323,000	13,458	5.1
1929.....	987,708	80,596	214,998,000	12,255	4.6
1930.....	927,447	80,918	211,228,000	11,462	4.4
1931.....	894,608	68,824	165,701,000	12,998	5.4
1932.....	819,997	63,913	142,577,000	12,830	5.8
1933.....	861,254	69,047	139,668,000	12,473	6.2
1934.....	895,636	77,533	143,529,000	11,552	6.2
1935.....	966,243	77,402	142,884,000	12,483	6.8
1936.....	1,068,570	78,420	148,026,000	13,626	7.2
1937.....	1,183,440	83,183	155,719,000	14,227	7.6

¹ Data not available.

TABLE 4.—Volume of business, wage earners, and output per man, in oil pipe lines under Interstate Commerce Commission, 1922 to 1937

Year	Volume of transportation service				Average of number employees			Indicators of output per man				
	Miles of pipe lines ¹	Barrels of oil ² transported (millions)	Barrel-miles of oil transported (millions)	Pipe-line operating revenue ³ (thousands)	Wage earners	Salaried employees		Total	Miles of line per wage earner	Barrels of oil transported per wage earner	Barrel-miles per wage earner (thousands)	Revenue per wage earner
						Field	Office					
1922.....	57, 349	(⁴)	156, 169	\$128, 059	14, 619	835	1, 945	17, 399	3.9	(⁴)	10, 683	\$8, 760
1923.....	64, 760	(⁴)	160, 015	131, 213	20, 730	1, 183	2, 142	24, 055	3.1	(⁴)	7, 719	6, 330
1924.....	68, 185	(⁴)	179, 172	146, 921	19, 323	1, 103	2, 034	22, 460	3.5	(⁴)	9, 272	7, 603
1925.....	70, 009	831	200, 786	164, 645	17, 863	978	1, 852	20, 693	3.9	46, 532	11, 240	9, 217
1926.....	72, 846	836	211, 067	173, 075	24, 198	945	2, 203	27, 346	3.0	34, 531	8, 722	7, 152
1927.....	76, 070	989	238, 489	195, 561	25, 252	1, 063	2, 096	28, 411	3.0	39, 182	9, 444	7, 744
1928.....	81, 676	1, 053	270, 821	222, 073	21, 849	1, 188	2, 233	25, 270	3.7	48, 203	12, 395	10, 164
1929.....	85, 796	1, 156	306, 599	251, 411	19, 976	1, 067	2, 414	23, 457	4.3	57, 887	15, 348	12, 586
1930.....	88, 728	1, 172	290, 134	237, 910	19, 037	530	2, 381	21, 948	4.7	61, 573	15, 241	12, 497
1931.....	93, 090	1, 110	271, 883	222, 944	16, 708	1, 256	1, 890	19, 854	5.6	66, 406	16, 273	13, 344
1932.....	92, 782	1, 121	258, 279	211, 789	13, 476	1, 090	1, 725	16, 291	6.9	83, 174	19, 166	15, 716
1933.....	93, 724	1, 189	264, 869	217, 192	16, 189	930	1, 765	18, 884	5.8	73, 450	16, 361	13, 416
1934.....	93, 070	1, 214	242, 885	199, 166	17, 901	1, 024	1, 928	20, 853	5.2	67, 798	13, 568	11, 126
1935.....	92, 037	1, 059	250, 119	197, 368	17, 853	1, 613	2, 049	21, 515	5.2	59, 309	14, 010	11, 055
1936.....	94, 060	1, 102	271, 008	219, 057	19, 826	1, 345	2, 064	23, 235	4.7	55, 569	13, 669	11, 049
1937.....	96, 612	1, 288	303, 016	248, 645	20, 803	1, 188	2, 177	24, 168	4.6	61, 934	14, 566	11, 952

¹ Data represent 82, 81, 81, and 82 percent of the total gathering and trunk oil pipe-line mileage in the United States in 1924, 1926, 1931, and 1936, respectively.

² Data include crude and refined oil transported, and represent the sum of the oil originated on the lines of each reporting company and that received from connecting lines. Since some of the oil was handled by 2 or more companies and was included in the reports of each company this aggregate involves a considerable amount of duplication and is larger than the actual quantity of oil transported. It is believed that the duplication amounts to about one-fourth of the shipments indicated and that the amount of duplication has not varied from year to year; hence the figures indicate the approximate trend of the quantity of oil transported.

³ Includes transportation, storage, demurrage, rent, and miscellaneous revenues. However, an analysis of the total for 1936 (from data supplied by the Bureau of Statistics, Interstate Commerce Commission) indicates that 98 percent of the total represented transportation revenue.

⁴ Data not available.

Increasing Output Per Worker Employed

The history of the petroleum and natural-gas industry represents an almost continuous record of successive economies in unit labor requirements. Although the same tendency has been a feature of virtually all branches of mining, increasing output per worker in petroleum and natural-gas production is especially significant because this activity ranks second among the mineral industries as an employer of labor and because the production of oil and gas has always required a relatively small amount of labor per unit of product. In fact, it is largely due to the mushroomlike growth of the petroleum and natural-gas industry that the increase in output per worker employed in mining as a whole has outstripped that of all other basic industries. Despite the depression influences that operated after 1929, it is noteworthy that the trend of output per man in the petroleum and natural-gas industry has continued upward strikingly.

Rise of man-hour output at oil and gas wells and natural-gasoline plants.—An outstanding reduction in manpower requirements per unit of product has taken place over an extended period in the primary producing segment of the industry. As is shown in table 5,

output per man-hour increased more than 850 percent between 1880 and 1935.²

A feature of the long-time record of output per man-hour for primary producing activities is the large share of the aggregate increase that has taken place in relatively recent years. Gains in unit yield, it is true, approximately tripled in the 30 years ended with 1909. A more than threefold gain was recorded, however, in the relatively short span from 1919 to 1935. Very significant, also, is the continued increase in labor productivity between 1929 and 1935, when output per man-hour increased 72 percent. Slightly lower output per man-hour in the 2 years after 1935 is explained by the expanding drilling campaign that required additional workers.

TABLE 5.—*Production, total man-hours worked (including contractors' employees), and output per man-hour in petroleum, natural-gas, and natural-gasoline production, 1880 to 1937*

Year	Crude petroleum		Natural gas		Natural gasoline	
	Production (thousands of barrels)	B. t. u. (6,000,000 per barrel) (billions)	Marketed production (millions of cubic feet)	B. t. u. (1,000 per cubic foot) (billions) ¹	Production (thousands of gallons)	B. t. u. ² (120,000 per gallon) (billions)
1880.....	24, 354	146, 124	(³)	(³)	-----	-----
1889.....	35, 164	210, 984	250, 000	250, 000	-----	-----
1902.....	89, 275	535, 650	281, 000	281, 000	-----	-----
1909.....	171, 559	1, 029, 354	431, 853	431, 853	271	33
1919.....	350, 112	2, 100, 672	727, 295	727, 295	454, 089	54, 491
1929.....	1, 007, 323	6, 043, 938	1, 917, 693	1, 917, 693	2, 233, 688	268, 043
1935.....	996, 596	5, 979, 576	1, 916, 595	1, 916, 595	1, 651, 986	198, 238
1936.....	1, 099, 687	6, 589, 122	2, 167, 802	2, 167, 802	1, 796, 340	215, 561
1937.....	1, 279, 160	7, 674, 960	2, 447, 620	2, 447, 620	2, 065, 434	247, 852

Year	All products		Man-hours worked by wage earners of producers and contractors ⁴		Output per man-hour	
	B. t. u. (billions)	Index (1935=100)	Total number (thousands)	Index (1935=100)	B. t. u. per man-hour (thousands)	Index (1935=100)
1880.....	146, 124	1.8	41, 317	17.5	3, 537	10.3
1889.....	460, 984	5.7	67, 326	28.5	6, 847	20.0
1902.....	816, 650	10.1	122, 824	52.0	6, 649	19.4
1909.....	1, 461, 240	18.1	140, 882	59.6	10, 372	30.3
1919.....	2, 882, 458	35.6	275, 303	116.5	10, 470	30.6
1929.....	8, 229, 674	101.7	413, 320	174.9	19, 911	58.1
1935.....	8, 094, 409	100.0	236, 260	100.0	34, 261	100.0
1936.....	8, 981, 485	111.0	288, 078	121.9	31, 177	91.0
1937.....	10, 370, 432	128.1	315, 924	133.7	32, 826	95.8

¹ The approximate heat value of natural gas is a little less than that given in Minerals Yearbook, 1938, as it excludes the heat value of the natural gasoline extracted.

² This value is roughly the midpoint between the heat value per gallon of normal pentane (113,200 B. t. u.) and of average gasoline (129,060 B. t. u.). Natural gasoline consists primarily of the hydrocarbon known as pentane with some hexane and heavier hydrocarbons.

³ Quantity negligible in this year.

⁴ Estimated as explained in table 2.

⁵ The few irregularities in the long-time upward trend of output per man are explained mainly by unusual conditions that prevailed in census periods. From 1889 to 1902, for example, there was a notable increase in output per man-hour in petroleum production that was more than offset by a decline in productivity in natural-gas fields, as gas-well pressure dropped notably and production failed to keep pace with employment; this development, vividly recorded in the census results for 1902, was soon remedied by new discoveries. Likewise, failure to show more of an increase in unit output during the decade ended with 1919 is associated with wartime factors of high prices, urgent demand, extensive drilling, and the operation of properties that would have been submarginal under more normal economic conditions.

Changes in output per man in refining.—A similar, although somewhat more irregular trend is shown for output per man in petroleum refining. Using refinery throughput of crude oil per man-year as an approximate indicator of worker output in the early years, output per man more than quadrupled between 1880 and 1909, when the record of worker output is first available on a man-hour basis. The upward movement of output per man was checked during the war decade but was resumed after 1919. By 1929 throughput of crude oil per man-hour was 4.6 barrels, a gain of 92 percent over 1919. Additional increases in output per man-hour were made during the depression years, and in 1937 the throughput per man-hour was 7.6 barrels, an increase of 65 percent over 1929 and more than threefold above the 1919 average (see table 3).

A part of the irregularity in the upward trend of worker output indicated for petroleum refining is introduced by measuring output per man on the basis of refinery throughput or "crude oil run to stills." Such a measure, of course, simply shows the volume of crude oil the refineries handled per man-hour worked. It makes no allowance for the broad changes and improvements in the products of the refineries.³ That these changes have been significant is illustrated simply by noting the octane rating of ordinary gasoline produced today compared with gasoline a generation ago. Furthermore, under modern refinery technology, a barrel of crude oil yields a wide array of products, many of which were unknown to our grandparents. Since the trend shown for worker output in refining in table 3 does not consider the tendency toward greater variety and higher quality of end products, it is a very conservative measure of the increase in output per man-hour that has taken place.

Trend of output per man in pipe-line transportation.—Such scattered indicators as are available suggest that the long-time trend of output per man in pipe-line transportation has also been upward. In fact, it is probable that the increase in worker output on pipe lines has been fully as great as in any branch of the industry, for there has been a spectacular mechanization of tasks that in an earlier period required large numbers of workmen.

Table 4 (p. 831) shows the trend in output per man for the comparatively recent period 1922-37 for pipe lines transporting crude oil and refined products that are under the jurisdiction of the Interstate Commerce Commission. It will be noted that between 1922 and 1932 the volume of transportation service rendered per wage earner rose about 80 percent. The year 1932, however, was one of forced economies and minimum employment, after which the downward trend from 1933 to 1936 might be expected. Eliminating consideration of the 1932 data for the moment, it would appear that average output per wage earner for oil pipe lines increased approximately one-third in the 16-year period. In contrast with the trend in output per man in the production of oil, natural gas, and natural gasoline, and in petroleum refining, there have been no notable gains in worker output in pipe-line transportation after 1932, although there are some recent indications that the upward trend may be resumed in the near future. Un-

³ Even in such a period as 1914-19, when the throughput of crude oil per man-hour was dropping, notable advances were being made in the number and type of products obtained; this is one of the important reasons why output per man in refining—as measured by crude oil run to stills per man-hour—did not show an increase.

fortunately, no statistical record is available for natural-gas pipe lines that have made the most spectacular gains in efficiency and worker output in the past decade and a half.



Steel Industry: Technological Changes and Employment ¹

On April 8, 1940, the Temporary National Economic Committee inaugurated a series of hearings on technological changes, including the development and use of machines and the effects on employment and production. A preliminary summary of the subject in its broader aspects was presented on April 8. On April 11 and 12, the committee directed its attention to the steel industry. Testimony was presented on the technological changes in this industry by representatives of both employers and workers.

There was agreement that technological changes cause at least temporary displacements and dislocations. Differences of view were expressed regarding the seriousness of displacement and the appropriate methods of dealing with the problem.

An Employer's Point of View

Charles R. Hook, president of the American Rolling Mill Co., presented a general analysis of the effects of technological innovations on employment.

Comparisons of the years 1927 and 1937 were made as evidence that technological changes have not caused unemployment in the industry as a whole. With respect to the substitution of continuous sheet mills for hand mills, it was stated that the employment required for the construction and equipment of these new mills should be taken into account. The continuous-sheet rolling mills put into operation by 1937 represent a total investment of about \$500,000,000. It was stated that the greatest number of men who could have been employed directly in the operation of the hand mills in 1926 was about 43,000. Many of these mills are still in use. There are additional jobs, however, in the operations back in the plant before the product reaches the hand mills, and also in the maintenance of the machinery. When the hand mills are supplanted, many of these workers, instead of being displaced, are transferred to similar work on the continuous mills. It was also stated that the continuous mill creates jobs which do not exist in the hand mill.

There was an emphasis on the advantages of the continuous-sheet mill process and it was stated that two important benefits have accrued to workers. In the first place, the work has been made lighter and working conditions have been improved. Work on the old-style hand mills was much more arduous and difficult than on the continuous mills, which have eliminated the more difficult and taxing manual labor. In the second place, workers have benefited from the

¹ Summary of article in *Monthly Labor Review*, May 1940 (p. 1112). For further account of the organization, membership, and general objects of the Temporary National Economic Committee, see *Monthly Labor Review*, January 1939 (p. 1): *Basic Problems of the National Economy*, by Edwin M. Martin. (Also reprinted as Serial No. R. 865.)

broadening of markets brought about by the continuous sheet mills. This has been made possible by changes in the quality and properties of sheets made by the new process. The product lends itself to new uses and applications, as for example, the steel automobile top and one-piece automobile fender.

In a discussion of the methods of dealing with the problem of technological displacement, it was stated that reemployment could normally be expected through the processes of reducing the costs of production, increasing the volume of production, and shortening hours of work. The plan of the American Rolling Mill Co. in 1929, when there was an extensive shift to the new type of sheet mills, was described in some detail. It was explained that every effort was made to reemploy as many of the displaced workers as possible and to aid them, upon request, in obtaining work with other companies. Men who were not placed were given half pay for as many months as their years of service but for not more than 6 months and with a minimum of \$50 per month.

It was stated that the extent of separation allowances in the industry as a whole is not known. No industry-wide effort has been made to deal with the problem and no provision has been made for workers displaced when companies are forced to go out of business because of the transition to new types of mills.

The Point of View of Labor

The chairman of the Steel Workers Organizing Committee, Philip Murray, in his testimony presented to the Temporary National Economic Committee, referred to the chronic ills of the Nation's economy and stated that the most vital of these ills is unemployment.

It was stated emphatically that the Steel Workers Organizing Committee does not oppose technological advances but, on the contrary, conducts a continuous educational campaign among its members in favor of technological improvements. The purpose, it was stated, is to obtain the participation of labor and consumers in the economic benefits of such changes and to eliminate the present devastating social effects on workers, their families, and entire communities.

The effects of the new steel technology on employment and pay rolls were especially marked after 1936. In August 1936 the rate and quantity of ingot production were approximately the same as in September 1939, and yet, according to the testimony of the workers' representative, in September 1939, as compared with August 1936, there were 30,000 fewer workers; the number of man-hours per ton of steel ingots was 21 percent less; the labor cost per ton of steel was about the same in spite of a rise of more than one-fourth in hourly wage rates; and the price of finished steel was about 9 percent higher.

In a discussion of the effects of the new steel technology on jobs outside of the steel industry, some instances were cited in support of the view that new jobs are not being created to compensate for jobs eliminated directly in the steel industry. Tinplate made by the new process is used for beer cans, but this means fewer glass containers and therefore fewer glass workers. Sheet steel is being used for plumbing fixtures, but this means displacement of workers in foundries that produce cast-iron enameled plumbing fixtures.

Entire communities have been affected by the closing down of the old type of mills. In one steel town of 50,000 people, 4,500 hand-mill workers were permanently displaced in 3 years. A few years earlier 1,200 Bessemer steel workers were displaced in the same town. In this community, 64 percent of the population, or about 7,000 families, have been receiving some form of State or Federal assistance or have been trying to get such aid. Expenditures by the State and Federal Governments in this town have approximated \$3,250,000 a year.

In a discussion of practical ways in which industry can assume social responsibility for technological improvements, it was held that in many instances this could be achieved through the normal processes of collective bargaining along the following lines:

1. The workers to be displaced by technological improvements should be reabsorbed in the regular labor turn-over of the companies installing them.
2. The workers to be displaced should be notified at least 6 months in advance. From then until they are finally displaced, they should be given opportunities to learn how to do other jobs where openings develop periodically. Where necessary, expert vocational guidance and training should be provided for those workers who cannot easily adjust themselves to other jobs.
3. Those workers for whom there are no openings when they are finally displaced should be employed in some capacity until regular jobs open up for them. The wages paid these workers until they are placed on regular jobs should be charged to the original cost of the technological improvement.
4. Displaced workers who suffer a reduction of 10 or more percent in their average daily earnings as a result of being absorbed on lower paying jobs than their original ones, should be paid a job compensation of 3 percent of their earnings while in the service of the company. The job-compensation payments should be charged to the cost of the technological improvement.
5. The displaced workers who, for various reasons, cannot be reabsorbed in other jobs should be paid a dismissal wage of 10 percent of their earnings for a 10-year period, but not less than \$500 to those workers with less than 10 years of service. The dismissal wages should be charged to the cost of the technological improvement.

These suggestions were not offered as the final solutions for all of the problems incident to technological changes. It was held that, in the absence of universal collective bargaining, congressional regulation of the introduction of large technological changes is necessary. The general purpose of such regulations should be to make sure that technological improvements are installed "at such times and under such conditions as not to displace workers, bankrupt communities, close up complete mills, and otherwise disrupt the social fabric of industrial districts." It was suggested that the regulations might take the following form:

1. It should be compulsory for industry to pay adequate dismissal wages to all workers who are displaced as the result of technological changes.
2. The Federal Government should conduct a large-scale vocational training program for displaced workers who are paid dismissal wages, so that they will be better adapted for other jobs in industry that they might be able to secure, when their dismissal wages are exhausted. It is essential that labor should participate in the administration of such a vocational training program.
3. In addition to compulsory dismissal wages, other measures designed to have industry immediately reabsorb workers displaced by technological changes should be adopted.

It was held that the major part of the problem of technological unemployment from the national point of view is the distribution of the benefits of technology to everyone in the country. Even though provision is made to absorb displaced workers in the normal labor turn-over, the unemployed workers and young workers reaching an

employable age, who would be absorbed in the labor turn-over if there were no displaced workers, remain unemployed unless additional opportunities for employment are provided. In connection with this major problem, it was suggested that congressional measures might be enacted, designed to—

1. Pass on to consumers generally the economic benefits of technological improvements which are not being passed on in large enough amounts at the present time, or are being passed on too late to prevent our economic machinery from becoming jammed.

2. The maximum workweek in basic mass-producing industries which are highly developed from a technological point of view should be reduced. The performance of the steel industry in the past 10 years, as has been shown, illustrates the vital necessity for a further reduction in the maximum workweek. At the same time, the population of the country as a whole has increased approximately 8 percent. Thus, despite a decrease of more than one-third in the average workweek, the steel industry, the wealthiest in the Nation, has failed to absorb any of the net increase in employables resulting from our rising population. With the present rate of technological change in the steel industry, in the course of a short period of time thousands fewer workers will be employed than at present, unless the maximum workweek is further reduced to the level of approximately 30 hours a week at prevailing earnings or more.



Woolen and Worsted Industries: Mechanical Changes, 1910 to 1936 ¹

The advent of the twentieth century found the textile industry in the United States already in a high stage of integration and technical development. Most of the production processes and many of the machines used today to convert raw cotton or wool into cloth had been developed and put into operation prior to the turn of the century. By 1910 even the automatic loom had already been used in weaving a large variety of cotton-textile products.

The changes in the textile processing methods and equipment which have been introduced during the quarter of a century, 1910–36, have been of the type generally known in the industry as modernization, and were intended to enhance the quality of the product manufactured, to reduce and coordinate the number of processes and the number of operations in each process, or to reduce the labor requirements per unit of output. Many were developed gradually by plant management as a result of long years of experience, but most of the improvements were the product of the technical advances made in the machinery-manufacturing industries.

There has been great improvement in the machine work and precision applied to the manufacturing of textile machinery since 1910. Special metals developed in metallurgical laboratories have been applied to all places in machines where strain and wear is apt to occur. Special types of lubricating oils and lubricating devices provide better lubrication, with a saving in labor and lubricants. Plain iron bearings have been largely replaced by ball, roller, or impregnated bearings, which have not only reduced the wear on the machine and the power

¹ Summary of report of a study made by the Bureau of Labor Statistics in cooperation with the National Research Project of the U. S. Works Progress Administration. The data on changes in machinery and labor requirements presented in the report were prepared in collaboration with the Barnes Textile Association, Inc., a leading textile organization with headquarters in Boston, Mass. A more extended discussion of this report was given in *Monthly Labor Review*, January 1938 (p. 58).

required for operation, but have further simplified the lubrication problem. Automatically controlled humidity equipment has been generally installed in most up-to-date textile plants, particularly in those departments where humidity has a definite effect on the quality or operating condition of the product manufactured.

There is hardly a department or a section in a cotton or woolen mill which has not been affected by this sweep of modernization in textile machinery. Semiautomatic machines have been made automatic. Automatic processes have been simplified and extended. Where the same types of machines are still in use they have been redesigned and equipped with attachments which have greatly improved their efficiency, measured by both the quantity and the quality of the product manufactured.

A complete and detailed description of even the major changes in the processes and in the machinery used in manufacturing woolen and worsted cloth would concern itself largely with a study of gears, shafts, cams, lubricating, and other parts which make up the machine, and would involve an analysis of machinery and textile engineering far beyond the scope of this study. However, the data presented in this report are based on such a comprehensive technical analysis which dealt not only with changes in methods of manufacturing and equipment used, but placed particular emphasis on the effects of such changes on the labor requirements in manufacturing particular types of woolen and worsted cloth. The types of cloth studied were: 32-ounce woolen overcoating, 12-ounce woolen flannel, worsted serge, and cotton-warp worsted-filled suiting.

As in the case of cotton textiles,² the analysis was based upon factual data obtained by study of woolen and worsted mills. For purposes of presentation, however, two hypothetical groups of mills were assumed, one operating under conditions of 1910 and the other operating under conditions of 1936. The assumptions which have been made regarding these mills were:

(a) That each mill was engaged in the manufacture of one and the same type of cloth in 1910 and 1936 and that it produced an approximately equal quantity of finished goods in both periods.

(b) That each mill was equipped with the best machinery available at that time. This machinery was assumed to have operated at the machine speeds prevailing in the respective periods. Only such machines and equipment as have been proved practical and economical were included.

(c) That the machinery in both periods was adequately housed in buildings designed to meet the requirements of each mill and that the mills were provided with such lighting and heating facilities as would be considered good engineering in the respective periods.

(d) That the type of labor available remained constant and working hours unchanged throughout both periods. Both groups of mills were assumed to have operated on two 40-hour shifts a week. For each mill and for each period all so-called processing departments (such as yarn dyeing, bleaching, piece dyeing, fulling, napping, and miscellaneous finishing processes) and all office and managerial functions were excluded.

² See page 802 of this Handbook.

(e) That there was "good management" in both periods. Management is an important factor in the output of a plant. It is often as important as and sometimes even more important than good technology. For the purpose of this survey, however, the variations in man-hour output attributable to the variations in managerial technique were ignored.

During the period 1910-36 there was a tendency to relieve skilled workers of duties and functions which could be effectively performed by unskilled hands, with the result that the proportion of skilled to unskilled operators was considerably reduced, with corresponding reductions in pay rolls. Nevertheless, for the purpose of this survey it was deemed advisable to exclude the wage factor and to combine all employee-hours regardless of the skill required and the wages paid.

The objective of this study was to measure the changes in the output per man per hour of specific types of woolen and worsted cloth which were made possible by changes in machinery and equipment alone during the quarter of a century between 1910 and 1936. Precisely because this was the objective, it was necessary to study model mills, built up out of actual operating experience with particular types of machinery. The objective could not have been accomplished by studying the actual experience of any mill in its entirety, as such a mill would be composed of some new and some old machinery and would be dependent upon the efficiency of management quite as much as upon the character of its equipment.

The figures in this study could not show the extent to which an average mill in 1910 or in 1936 lagged behind the standard that might reasonably have been attained by a thoroughly modern mill in each of those years. They therefore did not show changes in the actual demand for labor, but merely indicated the tendencies at work in the labor market. If the technological lag had been greater in 1936 than it was in 1910, there would have been a smaller decrease in labor requirements than was indicated in this study. If management had caught up in the race with technology, the reduction would have been greater.

Findings of Study

The effect of the utilization of the most advanced textile machinery on the market in 1936 as compared with the most advanced machinery on the market in 1910 was to increase considerably the man-hour output in manufacturing the two woolen and two worsted types of cloth covered by this survey.

For the departments covered in the study, the increase in possible man-hour output between 1910 and 1936 was 86.4 percent in the manufacture of 32-ounce overcoating and 87.5 percent in 12-ounce woolen flannel. Among the worsted products, the increase in the man-hour output between 1910 and 1936 was 86.3 percent in worsted serge and 87.5 percent in cotton-warp worsted-filled suiting. As a result of this increased labor productivity, the man-hour requirements to produce an equal yardage of woven woolen and worsted cloth in 1936 showed a marked decline, averaging about 46.5 percent for the two woolen and two worsted products covered by the study.

TABLE 1.—*Labor productivity and man-hour requirements in manufacturing woolsens and worsteds, 1910 and 1936*

Mill producing—	Man-hour output of finished product					Requirements for 2 40-hour shifts			
	1910		1936		Per- cent of in- crease	Yards of woven cloth	Number of man-hours		
	Pounds	Yards	Pounds	Yards			1910	1936	Per- cent of de- crease
Woolen products:									
32-ounce overcoating ¹	4.99	2.16	9.21	3.98	84.60	21,816	10,120	5,480	45.80
12-ounce wool flannel ¹	3.08	3.67	5.79	6.88	87.50	37,440	10,200	5,440	46.70
Worsted:									
Worsted serge ¹	1.32	1.56	2.47	2.90	86.30	74,400	47,840	25,680	46.30
Cotton-warp worsted- filled suitings ¹	2.13	4.06	3.99	7.62	87.50	129,500	21,840	11,680	46.50

¹ Covers only departments included in study.

The manufacturing of woolen and worsted cloth consists of a series of processing operations, each requiring a varying amount of labor time. In the production of the 32-ounce overcoating in 1910, the weaving department consumed 46.2 percent of the total labor time spent in all the departments covered by the study, as against 16.6 percent for spinning and only 5.5 percent for blending and picking. The effects of the changes in machinery and equipment used in each department in 1936 as compared with 1910 were also different. The possible reduction in the labor-time requirements resulting from the changes in technology in 1936 as compared with 1910 was estimated at 53 percent for the weaving department, as compared with 71 percent in blending and picking and 19 percent in spinning. In studying the effects of mechanical changes on the labor requirements of a given plant, emphasis must therefore be placed not only on the changes in the man-hour output of a particular department or operation, but also on the relative importance of the department in the plant as a whole. This is illustrated in table 2.

TABLE 2.—*Changes in man-hour requirements to produce 21,816 yards of 32-ounce overcoating in 1910 and 1936, by processing departments*

Department	1910		1936		Percent of decrease in man- hours required
	Man-hours required	Relative importance of depart- ment ¹	Man-hours required	Relative importance of depart- ment ¹	
All departments.....	10,120	100.0	5,480	100.0	45.8
Rag picking.....	640	6.3	400	7.3	37.5
Blending and picking.....	560	5.5	160	2.9	71.4
Carding.....	1,520	15.0	800	14.6	47.4
Spinning.....	1,680	16.6	1,360	24.8	19.1
Spooling and dressing.....	1,040	10.3	560	10.2	46.1
Weaving.....	4,680	46.2	2,200	40.1	53.0

¹ Ratio of the labor time of each department to the total labor time of all the departments.

Among the different departments in the mills producing woolen products, the largest increase in the output per man per hour made possible by machine developments between 1910 and 1936 occurred in blending and picking. The increase was 208 percent in manufacturing 12-ounce woolen flannel and 237 percent in manufacturing 32-ounce overcoating. To some extent there was an incidental improvement over the types of machines in use in 1910, but the increase was due chiefly to the replacement of hand blending as used in 1910 by a machine process used in 1936. While 12 blenders working 40 hours a week would have been required in 1910 to prepare wool for the picking machines, this occupation disappeared entirely in using a 1936 automatic blending unit. Instead, 2 general helpers were required in 1936. The blending and picking department, however, employs comparatively few men, and the large increase in the labor productivity in this department did not result in as large a decrease in labor requirements as did smaller increases in productivity in the weaving, carding, and spooling departments.

The increase in the man-hour output in the weaving department, averaging 101.9 percent for the 12-ounce flannel and 112.7 percent for the 32-ounce overcoating, affected a very substantial proportion of the skilled workers employed in the mills. More than half the reduction of labor time required throughout the mill was achieved in the weaving department. This was brought about by the change from semiautomatic slow looms used in 1910 to high-speed automatic looms available in 1936. In 1910, one weaver was assigned to operate one loom in weaving 32-ounce overcoating and two looms for 12-ounce woolen flannel. In 1936, the automatic looms made it possible to assign three looms to a weaver in manufacturing 32-ounce overcoating and six or more looms to a weaver on the 12-ounce woolen flannel. As a result, to weave 21,816 yards of 32-ounce overcoating in 1 week of two 40-hour shifts, it would have been necessary in 1910 to have 48 semiautomatic looms and 96 weavers. In 1936, the same amount of identical cloth could be woven on 37 automatic looms requiring the attendance of only 26 weavers. These weavers in 1936 would have been assisted by 2 more filling men than in 1910 and by 6 drop-wire girls (an occupation that did not exist in 1910).

The same situation was found in the manufacture of worsted products, where the labor productivity of the weaving department advanced 121.3 percent for cotton-warp worsted-filled suiting and 159.3 percent for worsted serge. In 1910, to produce 74,400 yards of serge in two 40-hour shifts, the weaving department required 400 nonautomatic looms attended during two 40-hour shifts by 400 weavers, 2 looms per weaver. In 1936, the same amount of serge could be woven on 234 automatic looms requiring the attendance during the two 40-hour shifts of only 112 weavers.

Significant mechanical advances were also recorded in the spinning, twisting, and spooling and warping departments. Probably the most outstanding mechanical change affecting the production of yarn was the replacement of the small bobbins or packages formerly used on the mule spinning frame for woolens and cap spinning frame for worsteds by the larger packages now used on the ring spinning frames. Although the yarn-making processes did not undergo any inherent changes, the larger package resulted in greatly reducing the

amount of doffing required in 1936 as compared with 1910. In the spooling and warping department the increase in productivity resulted chiefly from the introduction of the larger packages and the use of high-speed automatic warpers to take the place of the slow process of spooling the yarn from the small bobbins to jack spools and from the jack spools to the warper or dresser.

TABLE 3.—Changes in man-hour output of woollens and worsteds, by processing departments, 1910 to 1936 ¹

Department	Woolen cloth			
	32-ounce overcoating		12-ounce flannel	
	Relative significance of department in 1910 ²	Percent of increase in man-hour output, 1910-36	Relative significance of department in 1910 ²	Percent of increase in man-hour output, 1910-36
Rag picking.....	6.3	54.10	(³)	-----
Burr picking.....	(³)	-----	0.8	(⁴)
Blending and picking.....	5.5	237.30	6.3	208.30
Carding.....	15.0	83.20	13.3	81.90
Spinning.....	16.6	21.60	27.5	49.80
Spooling and dressing.....	10.3	85.70	11.8	114.40
Weaving.....	46.2	112.70	40.4	101.90

Department	Worsted cloth			
	Worsted serge		Cotton-warp worsted-filled suiting	
	Relative significance of department in 1910 ²	Percent of increase in man-hour output, 1910-36	Relative significance of department in 1910 ²	Percent of increase in man-hour output, 1910-36
Sorting, scouring, and picking.....	6.5	93.70	5.1	93.80
Carding.....	2.5	47.90	2.6	35.80
Top making (combing and gilling).....	6.2	25.70	4.8	26.10
Drawing.....	10.0	15.90	8.1	6.70
Spinning.....	13.0	18.20	8.1	18.50
Twisting.....	13.4	166.70	(³)	-----
Spooling and warping.....	2.8	70.00	(³)	-----
Slashing.....	.8	25.00	(³)	-----
Filling preparation.....	5.2	153.20	10.6	158.40
Weaving.....	39.5	159.30	60.8	121.30

¹ Measured for each department in terms of the product made in the department.

² Ratio of the labor time of each department to the total labor time of all the departments.

³ Not required.

⁴ No change.



Unit Labor Cost in Manufacturing Industries ¹

Changes in unit labor cost (the amount of wages paid per unit of output) have been vitally affected in recent years both by changes in wage rates and by changes in man-hour output, or labor productivity. Information relating to several important industries, including some of the industries connected closely with the armaments program, makes possible a measurement of trends in unit labor cost from

¹ Summary of an article in the Monthly Labor Review, July 1940, by Victor Perlo, Office of Price Administration, and Witt Bowden, U. S. Bureau of Labor Statistics. (Reprinted as Serial No. R. 1142.)

the period of the World War to 1939. Such a measurement requires information relating to the trend of production and closely comparable information relating to the trend of total wages. Production indexes, as constructed by the National Research Project, are used for comparison with the pay-rolls indexes of the Bureau of Labor Statistics for the same industries.²

From 1919 to 1933, the prevailing trends in unit labor costs were downward. During most of the years between 1933 and 1938, there was an upward movement. The year 1939 showed another reversal, the unit labor costs in that year being lower in most industries than in 1938. (See table 1.)

Because of the present-day importance of production for defense, comparison of current labor costs with those of 1919, when industry was still largely under the influence of the World War, is especially significant. Unit labor costs were markedly lower in 1939 than in 1919.³ For important defense industries the declines in labor cost over this period were as follows:

	Percent
Blast furnaces, steel works, and rolling mills.....	39
Nonferrous metals: Primary smelters and refineries.....	38
Petroleum refining.....	57
Chemicals.....	52

Unit labor costs in 1919 were probably higher than in the 2 previous actual war years. Thus, the percentage declines in unit labor costs from 1917 and 1918 to 1939 may have been less pronounced than the declines listed above.

TABLE 1.—Indexes of unit labor cost in 19 manufacturing industries, 1919–39

[1923=100]

Industry	1919	1923	1929	1933	1935	1936	1937	1938	1939
Blast furnaces, steel works, and rolling mills.....	129.2	100.0	81.8	69.3	79.9	77.0	91.5	93.5	78.4
Nonferrous metals: Primary smelters and refineries.....	119.1	100.0	70.5	54.1	69.5	72.6	79.4	83.1	73.5
Petroleum refining.....	140.7	100.0	73.0	57.5	62.2	59.7	64.5	64.4	60.0
Chemicals.....	156.1	100.0	77.7	61.2	70.3	70.3	78.2	83.4	75.0
Fertilizers.....	149.3	100.0	86.5	61.9	76.0	70.3	75.9	72.1	74.5
Paints and varnishes.....	108.5	100.0	96.7	90.2	84.6	82.0	89.8	96.2	91.0
Rayon.....	(1)	100.0	72.4	32.8	36.8	34.7	36.6	34.3	29.7
Planing-mill products.....	96.6	100.0	94.3	71.5	75.4	(1)	80.3	(1)	(1)
Lumber and timber products.....	107.2	100.0	90.8	64.0	74.2	76.2	83.9	81.1	77.0
Clay products (other than pottery) and nonclay refractories.....	98.3	100.0	90.1	63.2	81.1	81.3	89.3	91.0	85.3
Cement.....	111.3	100.0	79.3	60.5	76.1	64.9	80.4	79.6	73.1
Cotton goods.....	102.5	100.0	81.5	64.1	77.7	69.5	78.0	75.7	70.5
Boots and shoes.....	89.3	100.0	81.3	55.3	61.3	56.0	63.6	58.8	56.3
Paper and pulp.....	112.2	100.0	85.5	58.9	70.0	68.8	74.6	73.4	68.1
Newspapers and periodicals.....	101.5	100.0	92.2	83.8	79.9	79.2	79.0	86.6	86.7
Bread and other bakery products.....	(1)	100.0	100.2	89.9	99.0	97.1	104.3	102.4	102.4
Flour.....	110.9	100.0	85.0	67.2	80.2	79.0	86.4	82.6	82.4
Ice cream.....	86.6	100.0	83.7	67.2	58.3	50.1	49.2	50.4	48.7
Cane-sugar refining.....	119.3	100.0	77.1	68.7	73.2	73.5	78.2	80.3	84.2

¹ Not available.

² U. S. Works Progress Administration. National Research Project. Studies of the Labor Supply, Productivity, and Production, Report No. S-1, pts. 1-3: Production, Employment, and Productivity in 59 Manufacturing Industries, 1919-36, by Harry Magdoff, Irving H. Siegel, and Milton B. Davis. Washington, 1939. This report is part of a series by the National Research Project, under the direction of David Weintraub, on Reemployment Opportunities and Recent Changes in Industrial Techniques. The indexes as originally constructed extended only to 1936 but were later revised and extended.

³ A complete analysis over so long a period, especially a period of radical price changes, would require much more information than is now available regarding costs other than labor and regarding changing prices and price relationships.

In 18 of the 19 industries studied, labor costs were lower in 1937 than in 1923, a more or less normal post-war year. In 11 of these industries the reduction in labor costs exceeded 20 percent. In 12 of the 19 industries, labor costs in 1937 were lower than in 1929.

As can be seen from table 1, between 1933 and 1937 most of the 19 industries experienced a rise in unit labor cost. Nevertheless, the median of the labor-cost indexes for 1937 remained about 6 percent below the median for 1929. Fifteen of the 18 industries for which 1939 indexes were computed show further reductions in labor costs between 1937 and 1939.

During the years 1935 to 1939, substantial increases in wage rates occurred in most industries. However, on the whole, labor costs were no higher in 1939 than in 1935. Hence, it appears that increases in hourly wage rates were matched by increases in output per man-hour. Table 2 gives the percentage changes in hourly earnings, output per man-hour, and unit labor cost for the 18 industries for which the necessary data are available for both 1935 and 1939. A wide diversity of results is apparent. However, it is noteworthy that the industries showing lower unit labor cost in 1939 than in 1935 employed 50 percent more workers than the industries showing an increased unit cost.

TABLE 2.—Percent of change in hourly earnings, output per man-hour, and unit labor cost in 18 manufacturing industries, 1935-39

Industry	Percent of change from 1935 to 1939 in—		
	Hourly earnings ¹	Output per man-hour ²	Unit labor cost
Blast furnaces, steel works, and rolling mills.....	+27.0	+29.6	-1.9
Nonferrous metals: Primary smelters and refineries.....	+25.7	+18.9	+5.8
Petroleum refining.....	+21.6	+26.0	-3.5
Chemicals.....	+23.3	+15.4	+6.7
Fertilizers.....	+26.0	+28.6	-2.0
Paints and varnishes.....	+20.1	+11.7	+7.6
Rayon.....	+25.7	+55.9	-19.3
Lumber and timber products.....	+23.0	+18.8	+3.8
Clay products (other than pottery) and nonclay refractories.....	+20.7	+15.0	+5.2
Cement.....	+22.2	+27.2	-3.9
Cotton goods.....	+3.5	+13.9	-9.3
Boots and shoes.....	-1.8	+6.8	-8.2
Paper and pulp.....	+17.2	+20.6	-2.7
Newspapers and periodicals.....	+12.6	+3.8	+8.5
Bread and other bakery products.....	+16.3	+12.4	+3.4
Flour.....	+10.4	+7.5	+2.7
Ice cream.....	+12.8	+34.8	-16.5
Cane-sugar refining.....	+12.0	-2.7	+15.0

¹ Computed from Bureau of Labor Statistics figures of average hourly earnings.

² Computed from production data of table 3 and from indexes of man-hours constructed from indexes of average hourly earnings and pay rolls.

Unit labor cost in 1940 showed marked variations in the separate industries, but downward trends in some industries seem to have been largely counterbalanced by upward trends in other industries. Some of the industries showing declines in unit labor cost in 1940 were blast furnaces, steel works, and rolling mills; petroleum refining; rayon; newspapers and periodicals; and cane-sugar refining. Industries showing increases included fertilizers; lumber and timber products; clay products; bread and other bakery products; and flour. The war in Europe beginning in 1939 was accompanied by an increase in

man-hour output in most industries, but the effects of these increases on unit labor cost were counterbalanced in varying degrees in the different industries by increases in hourly earnings.⁴

Table 3 gives the basic production and pay-roll indexes, from which the indexes of unit labor cost were derived.⁵

TABLE 3.—Indexes of production and pay rolls in 19 manufacturing industries, 1919–39¹

Industry	[1923=100]									
	1919	1923	1929	1933	1935	1936	1937	1938	1939	
	Production indexes									
Blast furnaces, steel works, and rolling mills	79.0	100.0	128.2	56.0	82.2	115.6	123.1	70.5	118.1	
Nonferrous metals: Primary smelters and refineries	86.5	100.0	136.6	49.2	70.1	87.8	106.7	80.6	99.0	
Petroleum refining	61.4	100.0	173.0	150.2	169.7	188.4	209.3	206.4	218.9	
Chemicals	74.5	100.0	151.7	120.8	142.9	163.4	187.1	146.1	183.0	
Fertilizers	110.5	100.0	126.3	71.7	88.0	100.4	123.4	112.8	114.3	
Paints and varnishes	74.4	100.0	146.4	88.4	127.5	148.6	159.4	130.5	151.4	
Rayon	(²)	100.0	333.3	635.0	742.7	823.0	963.3	805.3	1052.3	
Planing-mill products	71.4	100.0	92.6	27.4	41.9	(³)	63.1	(³)	(³)	
Lumber and timber products	93.6	100.0	97.5	37.2	51.9	64.7	69.0	58.3	67.3	
Clay products (other than pottery) and nonclay refractories	64.3	100.0	95.8	24.2	34.4	51.8	55.0	42.3	56.3	
Cement	59.4	100.0	123.9	46.1	55.3	82.4	85.3	76.8	90.1	
Cotton goods	85.5	100.0	100.4	85.4	77.0	96.8	101.3	80.3	100.4	
Boots and shoes	96.1	100.0	109.2	102.7	112.4	122.4	120.2	115.5	125.2	
Paper and pulp	79.8	100.0	133.7	111.0	125.8	141.2	155.3	139.0	164.7	
Newspapers and periodicals	72.2	100.0	139.5	99.0	122.5	134.4	142.5	127.8	130.4	
Bread and other bakery products	(⁴)	100.0	127.7	102.0	117.1	127.5	131.4	132.2	134.1	
Flour ⁵	109.7	100.0	98.9	80.6	81.0	85.1	83.7	86.6	89.8	
Ice cream	76.9	100.0	124.4	74.0	101.1	120.6	133.3	127.6	134.1	
Cane-sugar refining	94.9	100.0	115.5	88.9	95.0	96.1	102.0	96.5	93.2	
	Pay-roll indexes									
Blast furnaces, steel works, and rolling mills	102.1	100.0	104.9	38.8	65.7	89.0	117.2	65.9	92.6	
Nonferrous metals: Primary smelters and refineries	103.0	100.0	96.3	26.6	48.7	63.7	84.7	67.0	72.8	
Petroleum refining	86.4	100.0	126.3	86.4	105.5	112.5	135.1	133.0	131.3	
Chemicals	116.3	100.0	117.9	73.9	100.0	114.9	146.3	121.9	137.3	
Fertilizers	155.0	100.0	109.3	44.4	66.9	70.6	93.7	81.3	85.1	
Paints and varnishes	80.7	100.0	141.5	79.7	107.9	121.8	143.2	125.5	137.8	
Rayon	(³)	100.0	241.2	208.4	273.6	285.5	352.4	276.1	312.6	
Planing-mill products	69.0	100.0	87.3	19.6	31.6	(⁴)	50.7	(⁴)	(⁴)	
Lumber and timber products	100.3	100.0	88.5	23.8	38.5	49.3	57.9	47.3	51.8	
Clay products (other than pottery) and nonclay refractories	63.2	100.0	86.3	15.3	27.9	42.1	51.8	38.5	48.0	
Cement	66.1	100.0	98.2	27.9	42.1	53.5	68.6	61.1	65.9	
Cotton goods	87.6	100.0	81.8	54.7	59.8	67.3	79.0	60.8	70.8	
Boots and shoes	85.8	100.0	88.8	56.8	68.9	68.6	76.5	67.9	70.5	
Paper and pulp	89.5	100.0	114.3	65.4	88.1	97.2	115.9	102.0	112.1	
Newspapers and periodicals	73.3	100.0	128.6	83.0	97.9	106.5	112.6	110.7	113.1	
Bread and other bakery products	(⁴)	100.0	127.9	91.7	115.9	123.8	137.1	135.4	137.3	
Flour ⁵	121.7	100.0	84.1	54.2	65.0	67.2	72.3	71.5	74.0	
Ice cream	66.6	100.0	104.1	49.7	58.9	60.4	65.6	64.3	65.3	
Cane-sugar refining	113.2	100.0	89.1	61.1	69.5	70.6	79.8	77.5	78.5	

¹ Used in computing data of table 1. For sources of production indexes, see footnote 2 to text on p. 843. The pay-roll indexes were constructed by the Bureau of Labor Statistics.

² Not given because pay-roll figures are not available for computing unit labor cost.

³ Not available.

⁴ Not given because production figures are not available for computing unit labor cost.

⁵ For data of this industry, see Monthly Labor Review, July 1941 (p. 83): Productivity Trends in the Milling Industry.

⁴ Revisions and extensions of the unit labor cost data here summarized have been undertaken by the Division of Productivity and Technological Development of the Bureau of Labor Statistics.

⁵ Detailed information regarding the sources and methods of constructing the production indexes up to 1936 are available in the reference mentioned in footnote 2. Similar methods and sources were used for extending the indexes and for making slight revisions on the basis of later data, the revisions as well as extensions being incorporated in table 3.

Profit Sharing

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Senate Report on Profit Sharing ¹

A survey of establishments in the United States having profit-sharing systems in operation was made in 1939 under authority of a Senate resolution. The purpose of the study, as stated in the resolution, was "the preparation of an authentic record of experience" for the use of employers interested in adopting profit-sharing plans, and consideration of the advisability of encouragement thereof by the Federal Government through compensatory tax exemptions and tax reward for the voluntary adoption of profit-sharing plans. The survey was made under the direction of a subcommittee of the Senate Finance Committee.

The report of the subcommittee, signed by Senators Herring and Vandenberg,² recommended no specific legislation but reached certain general conclusions regarding the merits of profit sharing. In general, the committee felt that "the economic life of America is beset by a series of extremely complex problems, of which a fair and equitable distribution of the fruits of industry is one," and that "it would be unreasonable to assume that profit sharing could either be standardized or solve all of the problems confronting industry." The committee pointed out that there were both successful and unsuccessful systems, and that employers examining the subject should consider the dangers as well as the advantages.

Profit sharing with employees is not profit sharing unless a fair and just wage is paid before there is a division of net profits and, technically speaking, the share should be a percentage or sum fixed in advance. * * * Profit sharing will not succeed if undertaken by the employer as a substitute for the full, going wage in any given enterprise in any community. If thus undertaken, it is a libel on true profit sharing, because true profit sharing is the employee's stake in the net result of a mutual undertaking after normal wages have been paid. Profit sharing will not succeed if undertaken by the employer as a sudden, strategic alternative to unionism or to legitimate collective bargaining as established by law. It must develop by mutual consent. It must contemplate the full, free disclosure of facts respecting the profit operations of an enterprise. Wherever possible it should develop out of mutual consideration and mutual action.

The industrial leaders of any community have the power to establish a profit-sharing plan, it was said, but in the opinion of the committee, "the selection of the plan is an important consideration. Good faith is the essence of any contract. Profit sharing, entered into wholeheartedly by both sides with a sincere determination on the part of both employer and employee to do his share, will produce results the value of which can be estimated in tangible figures at the end of every fiscal year. Nor is profit sharing restricted to companies already making a profit, as is popularly believed. The experience of various business concerns reveals that profit sharing has been employed to carry companies out of the red and into the black by securing that measure of enthusiastic cooperation and contented efficiency which is the direct

¹ From the Monthly Labor Review for October 1939.

² U. S. Congress (76th Cong., 1st sess.). Senate, Committee on Finance. Report of subcommittee, pursuant to S. Res. 215 (75th Cong.). Survey of Experience in Profit Sharing and Possibilities of Incentive Taxation. Washington, 1939.

result of a belief on the part of the workers that they will not only be treated fairly by their employers, but that they have a material and predetermined interest in the results of the efforts of both workers and management."

The committee expressed the opinion that "there is no standard profit-sharing formula which can be uniformly applied to all American industry and commerce, although there are a few general principles which are rather constant in all successful profit-sharing systems." The committee found that "profit sharing, in one form or another, has been and can be eminently successful, when properly established, in creating employer-employee relations that make for peace, equity, efficiency, and contentment." The belief was expressed that profit sharing is "essential to the ultimate maintenance of the capitalistic system," and the committee stated that it had found "veritable industrial islands" of peace and prosperity, "dotting an otherwise and relatively turbulent industrial map, all the way across the continent. This fact is too significant of profit-sharing's possibilities to be ignored or depreciated in our national quest for greater stability and greater democracy in industry."

In the opinion of the committee, although "profit sharing (and we continue to use the term in its broadest sense) may not be practical in its application to all employer-employee relationships, nevertheless it is applicable over a far wider field than has yet been undertaken, and every employer-employee unit will do well to examine its own opportunities to establish this reality of partnership between capital and labor."

The committee was asked by Congress to consider the advisability of "incentive taxation" as an encouragement to voluntary profit sharing. In its report the committee stated its belief that it was not practicable to apply "incentive taxation" to the profit-sharing motive, at least until further study, and perhaps preliminary experimentation, of the theory and principle of incentive taxation. It continued as follows:

Opinion respecting "incentive taxation" is sharply divided in the committee and in the country. One school of thought insists that the taxing power should never be used for either "incentive" or "punitive" purposes, and that one is the complement of the other. The other school of thought insists that we already have the "punitive" tax, and that—confronting a condition rather than a theory—we should also have the "incentive" tax either as an offset or a substitute. In the latter field of action, serious consideration has been given to "incentive taxation" which, by compensatory tax exemptions and tax rewards, could, for example, encourage plant expansion and equipment replacements in industry. Other appealing examples are indicated in some of the discussions in the staff report.

It is interesting to note from the transcriptions of the hearings * * * that without exception those witnesses now operating under profit-sharing systems are opposed to "incentive taxation" or "compensatory tax benefits" either as an effort to expand the use of profit-sharing systems or regarding those now sharing profits with employees.

Staff Report on Profit-Sharing Systems

The report of the survey of profit-sharing systems by the staff of the subcommittee of the Committee on Finance was submitted with the report of the subcommittee, with the statement that the report was presented "solely in the nature of testimony," and that the committee "takes no responsibility" therefor.

The staff report states that while, broadly speaking, the name "profit sharing" has been applied to all types of plans which, in effect, grant monetary rewards to the worker over and above the wage scale, it eliminated various types of welfare plans which might be included in an industrial-relations program. The survey was primarily confined to those plans which offer monetary rewards currently or at some future time. These plans include pensions, annuities, bonuses, wage-dividend, stock-purchase, and profit-percentage plans.

This definition adopted by the staff report is much broader than the one commonly in use, which is roughly equivalent to the group classified in the report as profit-percentage plans. Profit-percentage plans as there defined are "those plans where the amount to be distributed or held for the benefit of the employee was definitely related to the profits of the company. This relationship is a stated percentage of net profits. Sometimes this percentage refers to total net profits available for dividends and sometimes to net profits after some allowance has been made for a return on capital."

An analysis of the plans of 728 companies is presented in the report, showing the number of plans of the various types, by industry, geographic location, and net worth, and also the normal number of employees of the companies, by type of business and age groups.

The 728 companies whose plans were analyzed reported a total of 948 different plans. Of this total, 415 were pension plans, 178 were profit-percentage plans, 18 were wage-dividend plans, 295 were bonus plans, 18 were stock-ownership plans, and 24 were special plans.



Profit Sharing for Industrial Employees ¹

A study of profit-sharing plans made by the National Industrial Conference Board in 1937 was based on the experience with 161 formal plans, of which 50 were active, 15 inactive, and 96 discontinued. In addition, 32 plans for giving extra compensation which could not be classified as true profit sharing were included. Of the 50 active plans 5 were in the electrical-appliance industry; 2 in the food-products industry; 10 in the machinery and machine-tools industry; 9 in other metal-products industries; 5 in the paper and printing industry; 4 in the textile industry; 4 in mercantile establishments; 1 in a financial institution; and 10 in miscellaneous manufacturing establishments. The extra-compensation plans were distributed among the same industries, with the exception of electrical appliances. The 82 companies having the two types of plans employed approximately 200,000 persons, of whom all but 29,724 were covered by the formal profit-sharing plans. The study did not include plans which were restricted to executives or special groups, and covered, therefore, plans in which most or all of the employees were included in the distribution.

In order to be included in the study as true profit sharing, a plan had to provide that payments to employees bear a definite relation to the profits of the company. There was no uniformity in the provisions of the plans as regards the percentage of profits allocated to

¹From Monthly Labor Review for February 1938. National Industrial Conference Board, Inc. Profit Sharing and Other Supplementary-Compensation Plans Covering Wage Earners, by F. Beatrice Brower. New York, 247 Park Ave., 1937.

employees or in the manner of their distribution to the individual workers. However, it was possible to classify the 50 plans broadly in three groups, i. e., 14 plans in which no deductions were made for capital earnings before computing the employees' share of the profits, 19 plans in which a deduction for dividends was made before the division of profits to the employees, and 9 plans in which profit sharing was dependent on dividends to stockholders. In eight cases the percentage of profits paid to employees and the method of computation was not reported.

In the first group, in which the employees' share of the profits was taken from the net earnings of the companies before deduction of any earnings on capital investment, the percentage divided among eligible employees ranged from 5 to 33 $\frac{1}{3}$. In the second group of plans, in which the stockholders' interest was protected before providing for the distribution to employees, 5 to 10 percent was deducted from net profits for payment of dividends on preferred or common stock by 17 companies, while 2 companies deducted fixed amounts, varying proportions of the balance being distributed to the employees. The proportion paid to employees ranged from 12 $\frac{1}{2}$ percent of the balance to 75 percent in 14 companies, while 2 companies divided among the employees the entire amount left after the stock dividend, 2 made the division on the basis of the proportion of capital invested to the total pay roll, and in one case the proportion paid to employees was not reported. In the third group of companies the employees' share of the profits was based on the amount of dividends declared on company stock.

In regard to the amounts distributed, it is stated in the report that "the percentage of profits cannot be regarded as an unfailing index of the relative liberality of the plan, however, as the rate of earnings of companies differs so widely that what apparently is a small percentage may in reality represent a liberal contribution from management."

The profits distributed among employees are frequently in exact ratio to their earnings, but in a majority of the plans other factors are included. Twenty-two of the plans provided for distribution in exact ratio of each worker's wages to the total pay roll, while various combinations of earnings, length of service, and rank were the basis of the allotment in 18 plans; in 2 cases the employees' share was dependent on thrift; and varied provisions were featured in the plans of 8 other companies. Only 1 of the 50 companies paid a flat sum to the employees, regardless of position, wages, and service.

The managerial group as well as the rank and file employees participated under the same plan in more than two-thirds of the companies. In 25 of the companies the two groups shared alike, although the managerial group received a larger sum in view of their larger salaries. In 11 cases this group received a higher percentage of profits than the employees, while in 6 cases the managerial group did not participate, and in 6 cases there were different plans for the two groups. In two cases only salaried employees were eligible; in one of these companies this policy was based upon the belief that the principle of profit sharing would not be understood by the unskilled group, the experience under the plan having been such as to decide

the company to restrict participation to the managerial group and the skilled workers.

Service requirements for participation varied greatly, the extremes ranging from participation by all persons in the employ of the company at the time the dividend is declared to a service requirement, in one instance, of 10 years. The usual requirements, however, range from 3 months to 1 year. In only one case did the profit-sharing plan provide for the sharing of losses by the employees. In this plan salaried employees receiving more than \$118.75 per month are subject to a 1-percent reduction in their base rates for every unit of \$60,000 by which the company's monthly net income is below \$600,000. No further deduction is made, however, when the consolidated statement shows a loss. Wage earners and salaried employees in the lower brackets are not subject to the loss-sharing provisions.

Profits were distributed in the form of cash in 42 of the 50 plans studied. In the remaining eight companies, the distribution was in the form of stock, interest-bearing certificates, or other forms, or part cash and part securities, largely for the purpose of inducing the employees to save the extra compensation.

The distribution of the employees' share of profits, it was found, was most frequently made at the end of the fiscal year. One of the most important objections to the annual distribution is that the interval between payments is too long to maintain the interest of the employees, with the result that they lose sight of the primary purpose of the profit sharing. Twenty-one of the companies followed the plan of annual distribution of profits and 6 each paid them semiannually, quarterly, and monthly. In four cases the payments depended upon stock dividends, four paid wage earners more frequently than the supervisory group, and in three cases the distribution period was not reported. It is stated in the report that apparently there is a trend toward increasing the frequency of the distribution of profits.

Information was obtained in the course of the study regarding 32 additional compensation plans, some of which could have been classed as true profit sharing except for the fact that the proportion of profits divided among employees was either revised periodically by the management or distributions were not entirely dependent on the earnings of the company.

Results of Profit-Sharing Plans

A frequent reason given for the establishment of profit-sharing plans is the belief that the employees should share in the profits they have helped to create, while profit sharing has also been regarded as "a stabilizer of the wage scale by providing a flexible, supplementary payment that will fluctuate with business conditions and yet also permit the company to control the wage cost so that it will bear a definite relation to company income." Another reason for the adoption of profit sharing has been to encourage employees to save and to build up a reserve for old age or emergencies. Underlying these reasons is said to be the hope that it will result in better cooperation and interest in the company's welfare on the part of the worker.

Some of the results of the operation of the plans, as reported by different companies, were improvement of employee morale and of the relations between management and the workers, greater efficiency, and reduced labor turn-over. The active plans reported on in this study were in general those which had been successful over a period of years, as more than half of them were in operation before the depression. Approximately 43 percent of the discontinued plans of 96 companies (which were 60 percent of the true profit-sharing plans surveyed, however) were given up because of dissatisfaction on the part of management or the unfavorable response of the workers. An additional 12 percent of the companies did not give the reason for discontinuance, but it was assumed the experience had been unsatisfactory. The remaining 45 percent of the plans were apparently discontinued "not because of any fault in the plan itself but because of extraneous influences."

The conclusion drawn from this study of both active and discontinued plans is that the future of profit sharing is problematical. "Each rise in the business cycle brings with it plans designed to reward the workers in some measure for the hardships suffered during the depression and to give them an opportunity to share in the returning prosperity, but how large a proportion of all such plans will survive recurrent depression is an open question."



Profit-Sharing Plan of General Electric Co.¹

A general profit-sharing plan was adopted by the General Electric Co. in 1934, but no payments were made in that year, as the earnings of the company were below the minimum required before the directors were authorized to set aside any amount for the purposes of the plan.

The plan provides that the directors may set aside and disburse in any year, out of the earnings of the company available for dividends on common stock after deduction of 8 percent of the average book value of the common stock, an amount not to exceed 12½ percent of the balance of such earnings. The plan is administered by a committee appointed by the board of directors from its own members. Originally the plan provided that employees who had had continuous service of not less than 5 years at the end of the year for which the allotment was made would be eligible for participation unless they received compensation under the extra-compensation plans for employees in executive and supervisory capacities. At the request of the employees the plan was modified, effective in 1936, to make payments semiannually instead of annually, and, effective in 1937, employees were made eligible for participation after 1 year of service, but on a graduated scale based on length of service.

Employees in each works, district office, general office department, and subdivision of the company are covered by the plan. The total amount of earnings of employees in each of these units is determined and such proportion of the general-profit-sharing fund is set aside

¹ From Monthly Labor Review for May 1938 (p. 1177). Data are from General Electric Co. reports: General Profit-Sharing Plan, Effective January 1, 1934; and Forty-sixth Annual Report, 1937.

for each such group as the ratio of earnings of participants in that group bears to the total earnings of all participants. Approximately 80 percent of the amount so arrived at is prorated among the group. The manager of each industrial or office group makes recommendations to the president, through the executive officer in charge, for the remainder of the approximately 20 percent of the fund set aside for his group. This balance may be allotted in whole or in part to all participants in the group, in proportion to their annual earnings, and any remainder not so allotted may be paid to participants in the group who have done outstanding work for the company during the year and who, it is considered, will be encouraged by such recognition to still greater growth in the future.

The payments may be paid in full in cash, or the committee may as soon as possible after the allotment, notify each employee of the amount of his share and if the employee does not, within 15 days, elect to receive the full amount in cash the committee will deposit 5-percent bonds to his credit with the custodians of the G. E. Employees' Securities Corporation. Bonds so deposited will receive additional payments under the same conditions as bonds purchased by the employees. Allotments of less than \$50, and amounts in excess of \$50 or multiples of that amount are deposited to the credit of the employee in the income accumulation account, and when credits in this account amount to \$50, additional bonds are issued and deposited to the credit of the employee with the custodians.

The board of directors is empowered to change any of the provisions of the plan (except the amount of the appropriation, which may not be increased) or to terminate the plan. Notice of changes or termination, however, must be given by the company at least 60 days before the beginning of the calendar year in which the changes or termination are to become effective.

The annual report of the company for the year 1937 showed that the amount of available earnings for distribution under the plan was \$5,761,140 in that year as compared with \$2,937,934 in 1936. The difference between earnings and payments for 1937 was \$288,828 which was to be added to the amount to be distributed under the plan in 1938.



The Selby Shoe Co. Profit-Sharing Plan ¹

The profit-sharing plan of The Selby Shoe Co., Portsmouth, Ohio, was established by an agreement between that company and the United Shoe Workers of America (C. I. O.). The plan in 1938 affected some 2,500 employees of the company, which manufactures women's shoes. The features of the plan were as follows:

Recognizing the fact that the interests of the company and its employees are largely mutual, and that both depend chiefly for their financial returns on the general success of the business, it is agreed generally that after labor has had fair wages, and capital a fair return, that the balance of the net profits be divided as hereinafter provided:

First, there shall be set aside for employees on the general pay roll who have been continuously employed during the previous fiscal year, a sum equal to the total of their average week's earnings;

¹ From Monthly Labor Review for September 1938 (p. 588).

Second, there shall be set aside for payment of dividends, or additions to surplus, an amount equal to 6 percent of the book value of the capital stock of the business;

Third, there shall be added to the employees' fund, a second amount, equal to 25 percent of the earnings left after the amount for dividends or surplus has been deducted;

Fourth, the sum of items 1 and 3 shall be divided equally among all qualifying employees on the last Friday in June;

Fifth, qualification requirements or participation in this fund shall be as follows:

(a) The employee must have been on the general pay roll during the whole of the previous fiscal year.

(b) He shall not have been absent more than 30 days at one time during the year except because of injuries received at work in the plant.

In a letter to its employees the company's comments on these clauses of its agreement indicated that "the money for the average week is sure to be paid. The profit sharing, on the other hand, depends upon the success of the business. * * * The sum of the two amounts for division among employees if this plan had been in operation during the past 10 years would have varied from \$40,000 in the poorest year to \$110,000 in the best one."



Westinghouse Profit-Sharing Plan ¹

According to the wage and salary payment plan established by the Westinghouse Electric & Manufacturing Co. on May 1, 1936, wage and salary base rates are fixed in line with rates paid in the community for the same type of work.

The basis of the plan is that the company's net income for any consecutive 3 months determines the pay that each employee receives for the next succeeding month.

When the average of the monthly net income of the company for a 3-month period is \$600,000, the employees receive, for the next succeeding month, their base rate of pay.

When this 3 months' average net income of the company is greater than \$600,000, then each \$60,000 of the increase (above \$600,000) results in a 1-percent increase on the base wage or salary of each employee for the next succeeding month—so long as the average base pay roll of the company for the same 3 months is not over \$5,000,000.

When the average base pay roll of the company for the said 3 months is greater than \$5,000,000, then the amount of the average net income (above \$600,000), which will result in a 1-percent increase of base wage or salary for the next succeeding month, is the figure which bears the same relation to \$60,000 as the average base pay roll of the company for the preceding 3 months bears to \$5,000,000.

When the 3 months' average net income is less than \$600,000, that portion of each salaried employee's base-rate salary over \$125 per month is subjected to a 1-percent reduction for each unit of \$60,000 that the net income is below the \$600,000 average. The plan will not automatically vary the rate of pay for hourly rated employees when the 3 months' average net income of the company falls below \$600,000 per month.

¹ From Monthly Labor Review for September 1938 (p. 589).

If an employee is working on a piece-work incentive plan, the wage and salary plan is applied on his total "take-out"; that is, base rate plus piece-work incentive rate.

A communication from the company indicated that the percentages paid from the inception of the plan in May 1936 to August 1938 were as follows:

	<i>Percent paid in—</i>				<i>Percent paid in—</i>		
	<i>1936</i>	<i>1937</i>	<i>1938</i>		<i>1936</i>	<i>1937</i>	<i>1938</i>
January-----	--	13	9	July-----	13	15	3
February-----	--	13	4	August-----	14	16	1
March-----	--	14	3	September-----	9	15	-
April-----	--	15	1	October-----	8	13	-
May-----	9	15	3	November-----	10	12	-
June-----	11	15	5	December-----	12	10	-

Social Security: Federal and State

**U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.**

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Types of Social Security Systems

The United States with the enactment of the Social Security Act in 1935 provided for—

1. A Federal old-age annuity system.
2. An unemployment trust fund in the Federal Treasury under which the State unemployment-insurance systems are centralized and receive administrative assistance.
3. Federal assistance to States having noncontributory old-age assistance systems.
4. Aid to needy dependent children.
5. Aid for maternal and child welfare.
6. Aid to the permanently blind.

No system of sickness insurance was established under the Social Security Act but it provided for a Federal appropriation for public health services to be divided among the States on the basis of need and special health problems.

Railroad employees were covered by special retirement and unemployment-insurance systems.

The Social Security Act was amended in several important particulars in 1939. By these amendments the date for the payment of benefits under the old-age insurance system was advanced; wives, dependents, and survivors were included in the system; and several new groups were added. Also, Federal grants to the States for old-age assistance, for public-health services, maternal and child welfare, aid to crippled children, and for vocational education were increased.

Workmen's compensation, which may be regarded as a part of the social-insurance system, has been in the process of expansion for more than 30 years and has been developed by the individual States, with the Federal Government providing coverage for employees subject to its jurisdiction.

On July 1, 1939, the Social Security Board became a part of the Federal Security Agency which was established under the Reorganization Act of April 3, 1939, and the President's Reorganization Plan No. 1. Other bodies incorporated in this agency were the Public Health Service, formerly in the Treasury Department; the Office of Education, formerly under the Department of the Interior; the Civilian Conservation Corps; and the National Youth Administration, formerly under the Works Progress Administration. The reorganization plan also affected the administration of the Wagner-Peyser Act by transferring the United States Employment Service to the Social Security Board, for integration with the Board's unemployment-compensation functions.

Certain of the operations of the American Printing House for the Blind, the largest publishing house for the blind in the world, were

transferred to the Federal Security Agency under Reorganization Plan No. 2. This publishing house furnishes books and apparatus for the education of blind children enrolled in public institutions and classes in the United States and its Territories, and a wide range of literature in the Braille system for adult blind readers.



References to Articles Elsewhere in This Handbook

For the most part, the various matters covered by the Federal acts dealing with social security are discussed in the sections of this Handbook devoted to those topics. The principal references are: Old-age insurance, beginning on page 657; old-age assistance, beginning on page 651; and unemployment insurance, beginning on page 881. Other items of the Federal program and certain related items of significance to social security in a broad sense are discussed below—namely, Federal aid to dependent children; Federal aid for maternal and child welfare; Federal aid for care of the blind; workmen's compensation for industrial injuries; and State life-insurance systems.



Aid to Dependent Children

In order to enable each State to furnish financial assistance to needy dependent children the Federal Social Security Act of 1935 provided that a sum sufficient to carry out this purpose should be appropriated for each fiscal year. These sums are used for making payments to States which have plans for aid to dependent children which have been approved by the Social Security Board. The term "dependent child" applies to a needy child under the age of 16, or under the age of 18 if he is regularly attending school, who has been deprived of parental support or care by reason of the death, continued absence from the home, or physical or mental incapacity of a parent, if he is living with his father, mother, or one or more other close relatives.

A State plan in order to receive the approval of the Board must provide that it shall be in effect in all political subdivisions of the State, must provide approved methods of administration, and may not impose, as a condition of eligibility for aid, a residence requirement which denies aid with respect to any child residing in the State who has resided therein for 1 year immediately preceding the application for aid, or who was born within the State within 1 year immediately preceding the application if its mother has resided in the State for 1 year immediately preceding the birth. Each State having an approved plan may receive from the moneys appropriated for this purpose, an amount under the amended act equal to one-half (formerly one-third) of the total amount expended in each quarter under such a plan, but not counting an expenditure in excess of \$18 per month for one dependent child and \$12 for each of the other dependent children in one family.

Recipients and Payments in January 1941

In 1940 approved plans for aid to dependent children were in operation throughout the year in 42 jurisdictions and in 1 additional State beginning in November 1940. Payments in these States amounted to \$133,214,000. In December 1940 payments were made to approximately 359,000 families in behalf of 866,000 dependent children.

The following table shows the number of families and children receiving this type of assistance in January 1941, the amount of payments, and the average payment per family by States.

Aid to dependent children in States with plans approved by the Social Security Board, by State, January 1941

[Social Security Bulletin March 1941 (p. 45). Data reported by State agencies, corrected to Feb. 15, 1941]

Social Security Board region and State	Number of recipients ¹		Amount of payments to recipients ³	Average payment per family
	Families	Children ²		
Total.....	364, 338	4 882, 682	\$12, 024, 615	\$33. 00
Region I:				
Maine.....	1, 598	4, 036	62, 958	39. 40
Massachusetts.....	12, 616	4 31, 269	742, 755	58. 87
New Hampshire.....	615	1, 525	27, 681	45. 01
Rhode Island.....	1, 298	3, 703	59, 596	45. 91
Vermont.....	624	1, 740	20, 292	32. 52
Region II:				
New York.....	34, 284	67, 382	1, 601, 242	46. 71
Region III:				
Delaware.....	581	4 1, 609	19, 599	33. 68
New Jersey.....	11, 181	25, 250	350, 392	31. 34
Pennsylvania.....	53, 596	132, 645	1, 960, 519	36. 58
Region IV:				
District of Columbia.....	943	2, 825	35, 920	38. 09
Maryland.....	7, 046	18, 975	221, 252	31. 40
North Carolina.....	9, 736	23, 716	163, 402	16. 78
Virginia.....	3, 987	11, 963	81, 125	20. 35
West Virginia.....	8, 667	23, 519	203, 270	23. 45
Region V:				
Michigan.....	20, 329	4 48, 773	826, 868	40. 67
Ohio.....	11, 330	4 30, 781	450, 192	39. 73
Region VI:				
Indiana.....	17, 331	35, 594	494, 210	28. 52
Wisconsin.....	12, 646	3 28, 742	478, 140	37. 81
Region VII:				
Alabama.....	5, 881	17, 285	80, 586	13. 70
Florida.....	4 4, 334	6 10, 822	95, 051	21. 93
Georgia.....	4, 821	12, 199	105, 433	21. 87
South Carolina.....	3, 056	9, 069	49, 961	16. 35
Tennessee.....	14, 379	36, 232	266, 270	18. 52
Region VIII:				
Minnesota.....	9, 260	4 21, 991	320, 508	34. 61
Nebraska.....	7 5, 747	7 12, 767	180, 669	31. 44
North Dakota.....	2, 456	4 6, 794	76, 362	31. 09
South Dakota.....	4 992	6 2, 221	23, 148	23. 33
Region IX:				
Arkansas.....	6, 255	15, 865	85, 645	13. 69
Kansas.....	6, 514	15, 297	195, 789	30. 06
Missouri.....	13, 179	30, 944	393, 563	29. 86
Oklahoma.....	19, 287	44, 084	283, 587	14. 70
Region X:				
Louisiana.....	14, 958	40, 954	388, 753	25. 99
New Mexico.....	2, 074	5, 927	54, 542	26. 30
Region XI:				
Arizona.....	2, 502	7, 202	81, 095	32. 41
Colorado.....	6, 331	15, 469	191, 780	30. 29
Idaho.....	2, 969	4 7, 425	88, 180	29. 70
Montana.....	2, 522	6, 149	73, 014	28. 95
Utah.....	3, 820	9, 899	144, 073	37. 72
Wyoming.....	726	1, 828	23, 523	32. 40

See footnotes at end of table.

Aid to dependent children in States with plans approved by the Social Security Board, by State, January 1941—Continued

Social Security Board region and State	Number of recipients		Amount of payments to recipients	Average payment per family
	Families	Children		
Region XII:				
California.....	15,666	¹ 37,666	738,599	47.15
Oregon.....	1,970	² 4,625	79,281	40.24
Washington.....	4,993	³ 11,851	159,840	32.01
Territory:				
Hawaii.....	1,233	4,070	45,980	37.14

¹ Represents recipients of money payments and/or assistance in kind; excludes recipients of medical care, hospitalization, and/or burial only.

² Data on number of children per 1,000 population under 16 years are not included, because population data for that age group as of Apr. 1, 1940, are not available.

³ Represents obligations incurred for month from Federal, State, and local funds for money payments and assistance in kind; excludes cost of administration and of medical care, hospitalization, and burial. Allowances for medical care and hospitalization included in money payments are not excluded.

⁴ Includes an unknown number of children 16 years and over.

⁵ Includes approximately 2,930 children 16 years and over.

⁶ Includes aid to dependent children administered under State law without Federal participation.

⁷ In addition, in 67 counties payments amounting to \$9,470 were made from local funds without Federal participation to 598 families in behalf of 1,099 children under the State mothers'-pension law; some of these families also received aid under State plan approved by the Social Security Board.

⁸ Includes 576 children 16 years and over.



Maternal Aid and Child Welfare

Maternal and Child Health Services

Appropriations to enable the States to extend and improve, as far as practicable under the conditions in the different States, the services for promoting the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress, were authorized by the Federal Social Security Act of 1935 (title V, part 1). The annual Federal appropriation authorized for maternal and child health allotment to the States and Territories is \$5,820,000, of which \$3,840,000 is available for payment when the States provide an equal amount and \$1,980,000 is available to the States on the basis of demonstrated need, without the requirement of matching by State funds. The funds are payable after plans for their utilization in promoting maternal and child health have been submitted by the States and approved by the Chief of the Children's Bureau.

A State plan, in order to receive approval, is required by the Social Security Act and its 1939 amendments to provide for financial participation by the State; for the administration or supervision of the plan by the State health agency; for efficient methods of administration (including the maintenance of personnel standards on a merit basis); for such reports as the Secretary of Labor may require; for the extension and improvement of local maternal and child health services; for cooperation with medical, nursing, and welfare groups and organizations; and for the development of demonstration services in needy areas and among groups in special need.

The following table shows some of the services administered or supervised by State health agencies under the Social Security Act, title V, part 1, in the calendar years 1939 and 1940.

*Maternal and child health services under Social Security Act, 1939 and 1940*¹

Type of service	Number reported ²		Percent change from 1939 to 1940
	1940	1939	
Medical services:			
Maternity service:			
Cases admitted to antepartum medical service.....	146, 252	125, 667	+16
Visits by antepartum cases to medical confer- ences.....	434, 262	337, 673	+29
Cases given postpartum medical examinations.....	34, 702	27, 526	+26
Infant hygiene:			
Individuals admitted to medical service.....	174, 840	138, 280	+26
Visits to medical conferences.....	515, 285	404, 839	+27
Preschool hygiene:			
Individuals admitted to medical service.....	298, 781	277, 703	+8
Visits to medical conferences.....	573, 825	474, 509	+21
School hygiene:			
Examinations by physicians.....	1, 608, 968	1, 358, 805	+18
Public-health nursing services:			
Maternity service:			
Cases admitted to antepartum nursing service.....	257, 900	214, 200	+20
Field and office visits to and by antepartum cases.....	722, 831	606, 425	+19
Cases given nursing service at delivery.....	15, 319	16, 823	+9
Cases admitted to postpartum nursing service.....	190, 434	152, 200	+25
Nursing visits to postpartum cases.....	478, 086	409, 368	+17
Infant hygiene:			
Individuals admitted to nursing service.....	449, 798	382, 138	+18
Field and office nursing visits.....	1, 452, 049	1, 267, 353	+15
Preschool hygiene:			
Individuals admitted to nursing service.....	523, 582	442, 070	+18
Field and office nursing visits.....	1, 226, 628	1, 070, 274	+15
School hygiene:			
Field and office nursing visits.....	1, 526, 229	1, 466, 859	+4
Immunizations:			
Smallpox.....	1, 170, 233	1, 471, 941	-20
Diphtheria.....	1, 101, 227	1, 067, 477	+3
Dental inspections:			
Inspections by dentists or dental hygienists:			
Preschool children.....	64, 721	69, 050	-6
School children.....	1, 160, 372	1, 427, 629	-19
Midwife supervision:			
Visits for midwife supervision.....	39, 046	39, 925	-2

¹ These figures are subject to revision; they include all corrections received through April 21, 1941. Apparent changes may be due to a real change in the amount of service provided, to a change in the number of health jurisdictions included, to more accurate or complete reporting, to statistical errors due to variations in interpretation of terms, or to other factors. The figures on admissions and visits are fairly dependable as an indication of services provided, but, on account of inconsistencies in the methods used by the States in reporting, these figures should not be used for computing average visits per admission.

² Reports for the calendar year 1940 were received from 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico. The data for 1939 do not include Puerto Rico.

Services for Crippled Children

For the purpose of enabling each State to extend and improve its services for crippled children, especially in rural areas and areas suffering from severe economic distress, an annual Federal appropriation of \$3,870,000 is authorized under the Social Security Act (title V, part 2) as amended in 1939. Of this amount \$2,870,000 is available after being matched by State funds and \$1,000,000 is available on the basis of demonstrated need, without the requirement of matching. The funds are expended for the extension and improvement of services for locating crippled children and for providing medical, surgical, corrective, and other services and care, and facilities for diagnosis, hospitalization, and aftercare for children who are crippled or who are suffering from conditions that lead to crippling. Funds are payable after the receipt and approval by the Chief of the Children's Bureau of State plans for services for crip-

pled children, which are required by the Social Security Act and its 1939 amendments to provide for financial participation by the State; for administration or supervision of the plan by a State agency; for efficient administrative methods (including the maintenance of personnel standards on a merit basis); for such reports as may be required by the Secretary of Labor; for the carrying out of the purposes specified in the act; and for cooperation with medical, health, nursing, and welfare groups and organizations and with any agency in the State administering State laws for vocational rehabilitation of physically handicapped children.

Child-Welfare Services

An annual appropriation of \$1,510,000 is authorized under the Social Security Act (title V, part 3) for grants to States for child-welfare services, for the purpose of enabling the United States, through the Children's Bureau, to cooperate with State public-welfare agencies in establishing, extending, and strengthening, especially in predominantly rural areas, child-welfare services for the protection and care of homeless, dependent, and neglected children and children in danger of becoming delinquent.

Plans are developed jointly by the State agencies and the Children's Bureau. Funds are to be used for payment of part of the cost of district, county, or other local child-welfare services in areas predominantly rural and for developing State services for the encouragement and assistance of adequate methods of community child-welfare organization in areas predominantly rural and other areas of special need.

In the development of State plans, differing conditions in the States are taken into consideration in order that the funds available may be used, within the limitation of the law, for purposes that will contribute most to the development of the child-welfare program in each State. Although every State plan for child-welfare services provides for the extension and strengthening of State services, for the encouragement and assistance of community child-welfare organization, and for the development of additional local facilities, there are marked variations within this general framework, due to the differences in existing child-welfare programs. The proportionate amount of Federal funds used for State services and for providing direct services to children in local areas and the extent to which Federal funds are used to supplement State and local funds for child-welfare services in local areas vary from State to State.

On October 31, 1940, 42,506 children, representing 20,743 families, were receiving child-welfare services from workers paid in whole or in part from Federal funds in 46 States, Alaska, and Hawaii. Seventy-five percent of the total number under care were in their own homes or those of relatives; 24 percent were receiving foster care; and 1 percent were under care elsewhere. Of the children receiving foster care, 48 percent were in boarding homes, 23 percent in free homes, 5 percent in work or wage homes, and 24 percent in institutions for dependent or neglected children.

Appropriations for Welfare Services

All the 48 States, the District of Columbia, Alaska, Hawaii, and Puerto Rico have availed themselves of Federal funds available under the Social Security Act and its 1939 amendments for maternal and child-health services, services for crippled children, and child-welfare services.

An annual appropriation of \$425,000 is authorized for the administration of these three services by the Children's Bureau.



Vocational Rehabilitation of the Disabled

An annual appropriation of \$3,500,000 is authorized in order to enable the United States to cooperate with the States and Hawaii in extending and strengthening their programs of vocational rehabilitation of the physically disabled. Of the sums appropriated, \$15,000 is allotted to the Territory of Hawaii and the remainder is apportioned among the several States according to the provisions of the Vocational Rehabilitation Act of June 2, 1920, with the proviso, however, that the amount apportioned to any State may not be less than \$20,000. The sum of \$150,000 is appropriated for administration of the act for each fiscal year.



Aid to the Blind

The Social Security Act provides for grants to States for the purpose of enabling the States to furnish financial assistance to needy individuals who are blind. In order to receive Federal assistance a State plan must be in effect in all political subdivisions, must provide for financial participation by the State, must be administered or supervised by a single State agency, and must provide that no aid will be furnished any individual for any period in which he is receiving old-age assistance. Under the amended act it is provided that in determining need any other income and resources of an individual claiming aid must be taken into account. It was originally provided that the Federal appropriation to States having an approved plan should be equal to one-half of the total expenditure for any individual which did not exceed \$30 per month but under the 1939 amendments the maximum was raised to \$40.

The accompanying table shows the number of persons receiving assistance, the total payments in the different States, and the average payment per recipient, in January 1941.

Aid to the blind in States with plans approved by the Social Security Board, by State, January 1941

[From Social Security Bulletin, March 1941 (p. 46). Data reported by State agencies, corrected to Feb. 15, 1941]

Social Security Board region and State	Number of recipients ¹	Amount of payments to recipients ²	Average payment per recipient	Number of recipients per 100,000 population ³
Total.....	49,104	\$1,152,229	\$23.47	49
Region I:				
Connecticut.....	4,213	45,841	27.42	412
Maine.....	1,126	25,467	22.62	133
Massachusetts.....	1,169	27,467	23.50	27
New Hampshire.....	316	7,191	22.76	64
Rhode Island.....	70	1,289	18.41	10
Vermont.....	147	3,193	21.72	41
Region II:				
New York.....	2,867	72,907	25.43	21
Region III:				
New Jersey.....	744	17,468	23.48	18
Region IV:				
District of Columbia.....	222	6,040	27.21	33
Maryland.....	682	14,980	21.52	37
North Carolina.....	1,894	28,310	14.95	53
Virginia.....	1,028	12,972	12.62	38
West Virginia.....	837	14,826	17.71	44
Region V:				
Michigan.....	1,123	26,400	23.51	21
Ohio.....	4,027	79,586	19.76	58
Region VI:				
Indiana.....	2,405	40,288	20.40	70
Wisconsin.....	2,017	47,220	23.41	64
Region VII:				
Alabama.....	613	5,434	8.86	22
Florida.....	4,274	32,998	13.34	130
Georgia.....	1,359	14,490	10.66	44
Mississippi.....	963	8,083	8.39	44
South Carolina.....	761	8,058	10.59	40
Tennessee.....	1,649	18,345	11.12	57
Region VIII:				
Iowa.....	1,508	35,962	23.85	59
Minnesota.....	961	25,398	26.43	34
Nebraska.....	4,707	14,493	20.50	54
North Dakota.....	230	4,952	21.53	36
South Dakota.....	259	4,445	17.16	40
Region IX:				
Arkansas.....	1,106	10,249	9.27	57
Kansas.....	1,384	29,423	21.26	77
Oklahoma.....	2,184	34,514	15.80	93
Region X:				
Louisiana.....	1,173	19,284	16.44	50
New Mexico.....	222	4,171	18.79	42
Region XI:				
Arizona.....	381	10,327	27.10	76
Colorado.....	599	16,639	27.78	53
Idaho.....	277	6,247	22.55	53
Montana.....	220	4,665	21.20	39
Utah.....	190	4,729	24.89	35
Wyoming.....	143	3,928	27.47	57
Region XII:				
California.....	7,285	350,322	48.09	105
Oregon.....	456	11,400	25.00	42
Washington.....	1,045	32,485	31.09	60
Territory:				
Hawaii.....	68	1,043	15.34	16

¹ Represents recipients of money payments and/or assistance in kind; excludes recipients of medical care hospitalization, and/or burial only.

² Represents obligations incurred for month from Federal, State, and local funds for money payments and assistance in kind; excludes cost of administration and of medical care, hospitalization, and burial. Allowances for medical care and hospitalization included in money payments are not excluded.

³ Total population as of Apr. 1, 1940, from the U. S. Bureau of the Census.

Includes aid to the blind administered under State law without Federal participation.

Principal Features of Workmen's Compensation Laws as of July 1, 1941¹

On July 1, 1941, all of the States except Mississippi had compensation laws in effect. In addition, such laws are operative for the benefit of employees in the District of Columbia, Puerto Rico, Alaska, Hawaii, and in the Philippines, and for civil employees of the Federal Government, and for longshoremen and harbor workers. As a result, there are now in operation in the United States no less than 54 independent compensation laws which have been drafted and put into effect over a period of some 30 years. All agree in their main objective, which is the payment of benefits to injured employees or to the dependents of those killed in industry, without regard to the question of negligence. But similarity almost ends here, for the application of the principle presents a great diversity of details in the various laws. This extends not only to the primary factors of the scope of the laws and the amount of compensation payable under them, but also to the matter of making the laws compulsory or voluntary, the securing or not securing of the payments of benefits, the mode of securing such payments (where required), the methods of administration, and the question of election or rejection of the act.

Insurance

It has become recognized generally that the only satisfactory method of financing the payment of benefits to injured workmen is through insuring the employer's liability. This may be effected through insurance with a private company or in a State fund. Self-insurance is authorized in most of the States. In such cases an employer usually must be able to satisfy the compensation board that he is financially able to cover his risks before he is allowed to carry his own insurance.

In the majority of States the employer is allowed to insure in private insurance companies. However, in Nevada, North Dakota, Ohio, Oregon, Puerto Rico, Washington, West Virginia, and Wyoming, an exclusive State fund is maintained, and the employers coming under the coverage of the workmen's compensation law are required to insure their risks in this fund, although in Ohio and West Virginia self-insurance is permitted under certain circumstances. In 11 States competitive State funds are maintained, and the employers have the choice of insuring their risks either in the State fund or with private insurance companies or by self-insurance.

State insurance systems exist in 19 States. Of these, 8 are monopolistic and 11 operate on a competitive basis. The Idaho statute seems to contemplate an exclusive State fund, but with an option for self-insurance and the deposit of a surety bond or guaranty contract as the means of satisfying the industrial board as to the security of payments. The reports of the board indicate, however, that in practice the system is competitive, and that approved private companies are permitted to do business in the State. The Ohio and West Virginia laws provide for self-insurance as well as for a State fund.

¹ Summary of Appendix 2 of Bulletin No. 672 of the Bureau of Labor Statistics, with later data. That appendix was prepared by Charles F. Sharkey, Bureau of Labor Statistics.

Coverage of Laws

The compensation laws do not attempt to cover all employments. Railroad employees and other persons engaged in interstate commerce usually are not covered by the State laws. Certain employees are also specifically excluded by the various acts. Some laws apply only to employees engaged in hazardous employments. Casual employees are usually excluded, and generally the laws do not apply to persons engaged in agriculture and domestic service. Most of the State laws cover minors and 15 of the acts provide extra compensation in case of injuries to minors who were illegally employed. In 28 States, employers of less than a stipulated number of employees are exempt. However, voluntary elections are usually permitted in such cases and also in regard to those employments classed as not hazardous, when the law covers only hazardous occupations.

In 9 States the compensation laws apply only to hazardous employments, but in all of these, except Oklahoma and Wyoming, employers and employees in other occupations are permitted to come under the act. The laws of Kansas, Louisiana, and New Mexico are elective, while those of the other States are compulsory. In Illinois and New York the workmen's compensation acts are compulsory as to hazardous industries and elective as to other employments. In New York, however, the lists of hazardous industries are so comprehensive that practically all employments are compulsorily covered. The New Hampshire act applies only to employers having a specified number of employees, but in hazardous industries the numerical exemptions do not apply. In Missouri the commission may require coverage of hazardous industries without regard to the numerical exemption. In most of these States the industries covered are enumerated, but the list is not complete in several States and in some a blanket clause is used, while in others additions have been made by administrative agencies and the courts. Employees of the State and its subdivisions and of municipalities are included in 31 States. In several of the States compensation for public employees is compulsory, although it is elective as to private employments.

Employments Specifically Excluded

Agriculture and domestic service.—Agricultural employees are excluded, either expressly or impliedly, from the operation of all workmen's compensation laws except in California (but agricultural employment is included in this State only when the employer's pay roll has exceeded \$500 in the preceding year), Connecticut, Hawaii, Illinois, New Jersey, Ohio, Puerto Rico, and Vermont. Domestic servants are also excluded in all States except Connecticut and New Jersey. In California, however, domestic servants working over 52 hours a week are covered, and in New York in cities of over 2,000,000 population private or domestic chauffeurs are subject to the act. In most States employers in these occupations may elect to come within the coverage of the compensation law, although in some States it appears that their exclusion is intended to be absolute. Employees engaged in threshing grain, etc., are specifically covered in Kentucky

and Minnesota (commercial threshermen and balers). In South Dakota the operation of certain farm machinery for profit is covered, and the Arizona and Philippine acts cover employees engaged in the operation of mechanical implements in agriculture.

Other exclusions.—Employees whose employment is casual and not in the usual course of the employer's trade or business are generally excluded. In a few States employees receiving more than a designated wage are also excluded, and in some States clerical and certain other occupations not considered to be hazardous are not included. Questions involving the coverage of loaned employees, casual employees, and independent contractors have caused much dispute and have been settled in various ways by court decision. The common-law rules determining the master-servant relation or the question of agency have been followed in most instances.

Occupational Diseases

As originally enacted, none of the workmen's compensation laws provided for the payment of benefits for disability resulting from an occupational disease. It is now generally realized, however, that it is just as important for workmen to be protected from occupational diseases as from accidental injuries. A high court of one of the States has laid down the general principle in a number of decisions that an injury may be anything that disables a man from work. In an early case the court in this State held that an infection which a stableman had received from glanders was as much a bodily injury as though he had received a broken leg or arm by the kick of a horse.

At the present time 31 workmen's compensation laws provide for the payment of compensation on account of occupational disease. These 31 jurisdictions include 25 States, the District of Columbia, Hawaii, Puerto Rico, the Philippines, the Federal Employees Compensation Act, and the Longshoremen's and Harbor Workers' Compensation Act. From the point of view of coverage, the laws may be classed in two groups—(1) those listing the specific diseases, usually called the selective method and (2) those including all occupational diseases by what is known as general or blanket coverage. In this latter group are 16 jurisdictions: California, Connecticut, Illinois, Indiana, Massachusetts, Missouri, New York, North Dakota, Ohio, Washington, Wisconsin, the District of Columbia, Hawaii, the Philippines, and the two Federal workmen's compensation laws, applicable to United States employees and to longshoremen and harbor workers.

In the group of laws listing specific compensable diseases there are 14 States and Puerto Rico. The States are Arkansas, Delaware, Idaho, Kentucky, Maryland, Michigan, Minnesota, Nebraska, New Jersey, North Carolina, Pennsylvania, Rhode Island, Utah, and West Virginia. The number of diseases listed in the several workmen's compensation laws of these States varies to a considerable extent. In Delaware the law covers 16 diseases, Idaho 15, Maryland 34, Michigan 31, Minnesota 23, New Jersey 10, North Carolina 25, Pennsylvania 15, Rhode Island 31, Utah 27, and Puerto Rico 15. In Arkansas the law covers 38 diseases, including 24 different types of

poisoning. In 3 States (Kentucky, Nebraska, and West Virginia) coverage is limited to one or more diseases contracted in certain employments.

Election

There are 31 States which have elective workmen's compensation laws. In 22 States election is presumed in the absence of positive rejection, this presumption affecting both the employer and employee. In the other elective States the employer must take positive action, but, if he acts, the employee's acceptance is presumed, except in Kentucky, where he must sign an acceptance. The acceptances are filed with designated State authorities in 6 States (Kentucky, Maine, Michigan, Nevada, New Hampshire, and Rhode Island), while the act of securing insurance signifies election in Massachusetts, Texas, and West Virginia. In Arizona the law is compulsory as to the employer, but the employee may elect not to be covered.

Extraterritorial Effect of the Law

In about two-thirds of the States the workmen's compensation laws are applicable to accidents happening outside of the State. Generally, the law specifies that the contract of hire shall have been made within the State and either that the employee is a resident of the State or that the employer's place of business is within the State. In the other States, the law contains no statement as to whether it applies to accidents happening outside the State, but the courts of some of these States have interpreted the law as being applicable to such accidents.

Suits for Damages

Where both parties have accepted the act, suits for damages are generally forbidden, but in New Hampshire (an elective State) after an injury the employee may choose whether he will proceed under the workmen's compensation act or sue for damages at common law. In most of the States having an elective act, if the employer has accepted the act, an employee who has rejected it may sue, but in this case the employer retains the common-law defenses.

Waiting Period

All of the States except Oregon provide that during a specified period of time immediately following the injury, compensation shall not be paid. This "waiting" time ranges from a minimum of 1 day to a maximum of 14 days, with the majority of the States requiring a 7-day waiting period. The period for which no compensation is paid has no relation to the requirement that medical and hospital care shall be provided, as the employee is entitled to these benefits immediately. In most of the States if the disability continues for a certain number of weeks, the payment of compensation is retroactive to the date of the injury.

Second Injuries

All of the compensation laws except those of Alaska, Louisiana, New Hampshire, Pennsylvania, the Philippines, Puerto Rico, Vermont, and the United States (civil employees) contain specific pro-

visions regarding payment of compensation in second-injury cases. When an employee has sustained an accident causing the loss of a member of the body and subsequently loses another in a second accident, he may become permanently and totally disabled, thus increasing the amount to be paid in the form of workmen's compensation. The States have enacted certain second-injury provisions to cope with this situation.

"Second-injury funds" have been established in 16 jurisdictions. These funds were created so that when a second accident occurs the employer will have to pay only for the second injury, yet the employee is compensated for the disability resulting from the combined injuries, the remainder of the award being paid from the second-injury fund.

Scale of Compensation

The amounts actually payable under the various compensation acts are determined by three factors: The rate, usually a percentage of the wages; the term or period of payment; and in most States a fixed maximum or weekly total payment. The amount and method of payment also differ according to the type of the injury. The acts prescribe certain payments in case of death and in case of permanent total disability, and also have specific provisions covering permanent partial disability and temporary total disability.

Percentage of wages.—Alaska, Oregon, Washington, and Wyoming are the only States which do not base the amount of compensation on the wage received by the injured worker. A few States provide fixed lump sums or pensions for certain injuries, but apply the percentage system to all others. In other States, there are varying percentages for different types of injuries and in some the percentage varies with the conjugal condition and the number of children, but in most cases the prescribed percentage remains uniform for all injuries.

Maximum term and amount.—In the great majority of the laws, different maximum terms or amounts are established. It is obvious that the reduction of a workman's income by one-half or even one-third leaves a large portion of his loss uncompensated. The burden on the employer is restricted further (and transferred necessarily to the injured employee and his family), since the term of payment is fixed in most States not by the period of disability but by an arbitrary maximum; death benefits likewise rarely continue for the period of probable need, as only about 8 or 10 States provide for payment of benefits during widowhood or during the minority of children.

Death benefits.—The methods provided for determining compensation for death vary considerably and do not in all cases depend upon the fact that the deceased was an actual financial benefit to his dependents. Most of the States have not been very liberal in prescribing the amount of compensation to be paid to dependents, although several of the laws have been amended in recent years to increase the amount. In Arizona, Nevada, New York, Oregon, Washington, West Virginia, and the United States (Civil Employees' Act), the law provides for the payment of benefits to a widow for life or until remarriage, and in the case of children until a specified

age is reached. The majority of the other States have a similar provision but limit the total amount payable. In Utah the industrial commission is given authority to pay benefits indefinitely in meritorious cases. Oklahoma pays no death benefits.

In a few States, the death benefits are limited to monthly payments for a specified period, while others set a total maximum ranging from \$3,000 to \$15,000. The remarriage of the widow usually terminates the benefits in about half of the States, although in a few jurisdictions a lump sum is payable upon remarriage. The experience of some State commissions, as shown in their reports, indicates that a life benefit to the widow with additional amounts for each child under the age of 18 is the best system to adopt in rendering assistance to the dependents following the death of a workman from an industrial accident or disease.

Funeral benefits are provided in all States except Oklahoma, which does not compensate for death. In some States such benefits are given only when there are no beneficiaries.

Disability benefits.—Compensation is paid in four designated classes of disability—permanent total, permanent partial, temporary total, and temporary partial. The term “disability” has been defined in varying ways by the courts in interpreting State compensation laws. Some hold that it means inability to earn wages, or full wages, at the work in which the employee was working at the time of the injury, while other courts have held that it means the inability to perform any kind of work which might be obtained. A few courts have interpreted the term to mean inability to obtain work.

Awards of compensation for injuries causing permanent partial disability are made by two methods—payment of a percentage of the wage loss and payment for fixed periods for specified injuries. These two methods exist side by side, as the laws have schedules covering certain specified injuries, and those not included therein are compensated on a percentage basis. In Alaska, Washington, and Wyoming the payments are fixed sums, but in all other States the schedule payments are weekly amounts based on wages, except in California where the amount of the benefit depends on the age and occupation of the employee.

Medical Benefits

In all the States medical aid is required to be furnished to injured employees, usually in addition to compensation payments. In some States additional amounts are allowed for hospital expenses, while in others artificial limbs and other appliances are furnished. Seventeen States limit neither the amount nor the time during which aid shall be rendered; 12 other States limit the amount but not the time; 12 States limit the time but not the amount; and in 13 States there is a restriction on both the amount and the time. Medical benefits are without cost to the workman in the great majority of the States, but in Alaska the employer may deduct from the employee's wages \$2.50 per month to maintain a medical fund. In Arizona and Nevada one-half the cost but not over \$1 per month may be deducted, while in Washington one-half of the cost must be paid by the workman.

Administration and Settlement of Claims

There are two general methods of administration of the workmen's compensation laws: (1) By an administrative commission or board created for the purpose of enforcing the provisions of the law, and (2) by the courts. When administration is left to the courts it is usually because no other machinery for administration has been created and this law, like other laws, is enforced in the various Federal, State, and county courts.



Savings-Bank Life Insurance ¹

A savings-bank life-insurance system, providing low-cost life insurance for persons of moderate income, was established in Massachusetts by a law of 1907: New York introduced a similar system on January 1, 1939, and Connecticut followed suit in 1941. So far, these are the only States which have adopted the system. Over 211,000 policies representing about \$191,540,000 of life insurance, issued through savings banks in Massachusetts, were in force on October 31, 1940. On December 31, 1940, New York savings banks had issued more than 14,400 policies for about \$11,650,000 insurance.

In Massachusetts there were, late in 1940, 29 savings banks issuing life insurance, with numerous agencies throughout the State. On July 1, 1941, 14 savings banks in New York had been licensed to issue life-insurance policies and 12 banks had become agency banks.

Operation of the Systems

The operation of the savings-bank life-insurance system is practically the same in both Massachusetts and New York, with some exceptions. In Massachusetts mutual savings banks are empowered to establish insurance departments on approval of the State insurance commissioner and the State banking commissioner. Such approval is contingent on the provision of a special expense guaranty fund and a special insurance guaranty fund. Thereafter the insurance departments of such banks operate subject to the supervision of the two State officials named. In New York, savings banks incorporated under the New York law may establish insurance departments on approval by the State superintendent of banks. They must invest \$20,000 in the Savings Banks Life Insurance Fund and establish an initial surplus of not less than \$20,000 in the life insurance departments of the individual banks.

In their operation insurance departments must be independent of the savings departments of the banks as far as possible, with separate books and assets, though the executive management of both depart-

¹ Abstract of article prepared by Grace F. Felker, U. S. Bureau of Labor Statistics, in the Monthly Labor Review for April 1940, with later data. The operation of savings-bank life insurance in Massachusetts and New York is described in Bulletin No. 688 of the Bureau of Labor Statistics.

ments is generally vested in the executive officers of the bank. Funds of the insurance departments are to be invested in the same classes of securities and in the same manner as deposits in the savings departments. Savings-bank life insurance is, therefore, not State insurance, but its sale is under the supervision and regulation of the State.

In both Massachusetts and New York the funds of insurance departments of the savings banks are subject to the same State taxes as the funds of the life-insurance companies. Prior to November 1, 1939, savings banks' life-insurance funds in Massachusetts were taxed on the same basis as the deposits in the savings banks.

General direction of the insurance departments of the individual banks in Massachusetts is lodged in the Division of Savings Bank Life Insurance, with medical and actuarial directors, and a general staff. The General Insurance Guaranty Fund is an incorporated body, the members of which are appointed by the governor. This fund has the ultimate responsibility for the administration of the system. In New York, under a 1940 amendment of the law administration is vested in the trustees of the Savings Banks Life Insurance Fund, a body corporate in the banking department of the State.

The Connecticut savings bank life insurance law is practically the same as the amended New York law.

Sale of Insurance

In both Massachusetts and New York the sale of savings-bank life insurance is restricted to residents of the State or persons regularly employed therein. Insurance already purchased is not affected by removal of the policyholder from the State. In Massachusetts the usual ordinary and group life-insurance policies and annuity contracts are available. These include straight life insurance, limited-payment life insurance, renewable term insurance, group insurance, endowment policies, and annuity contracts. Children aged 6 months or more may be insured under any of the regular forms of insurance. The New York law also authorizes these various types of insurance.

Applications for insurance are limited to \$1,000 in any one bank. In Massachusetts a person may buy insurance in any number of banks, so that, with the 29 banks at the end of 1940, the maximum insurance obtainable under the law would be \$29,000. In 1938, however, an arbitrary maximum of \$25,000 was adopted by the system. In New York, on the contrary, there is a limit of \$3,000 on such insurance in the State. Annuity contracts are limited to \$200 a year in both States. In Massachusetts the amount of annuity income purchasable by a lump sum, however, has, for several years, been arbitrarily limited to \$600 a year, and in 1941 the amount of deferred annuity income purchasable was limited to \$100 a month.

In the main, savings-bank life insurance is purchased directly from the savings banks or their agencies in person or by mail. No agents or solicitors are employed for its sale, and no sales commissions are paid to anyone. Education in the advantages of such insurance is promoted in Massachusetts by the Division of Savings

Bank Life Insurance. It employs two "instructors" to visit industrial establishments, when requested by the employer, and to give the employees information as to the opportunities afforded. These instructors are paid by the Division and are not under the direction of the banks.

Advantages to the Policyholder

Savings-bank life insurance is made available at low cost compared with other life insurance. It is easy to obtain, as application may be made not only to any of the savings banks issuing insurance policies but also at agency banks which are located in various parts of the State and, in Massachusetts, at other approved agency bodies, such as employers, credit unions, etc. Applications may also be made by mail.

Insurance may be bought in small amounts and the premiums may be paid either monthly, quarterly, semiannually, or annually. It may be combined with regular savings on a weekly basis, if so desired. The cost of the insurance, which varies with the amount of insurance, the kind of policy, and the age, is decreased by a yearly dividend, commencing with the first year. These dividends are relatively high when compared with those of other private insurance companies, owing to the fact that no solicitors are employed, and to low mortality experience, economical management, and low overhead.

A savings-bank life-insurance policy is nonforfeitable in Massachusetts at any time after it is issued if the legal reserve is \$2 or more, and in both States is nonforfeitable in any case after 6 months' premiums have been paid. In Massachusetts the full legal reserve, without any surrender charge, is then available to the policyholder as cash surrender value, or as paid-up or extended insurance, as the policyholder may elect. The full legal reserve on the policy is also available as a loan value after 1 year's premiums have been paid. In general, this is true in New York. Similar nonforfeiture values, subject to varying surrender charges, are now usually available after 2 years' premiums have been paid on ordinary policies of the insurance companies.

Savings-bank insurance is safeguarded by the same requirements as to legal reserves, based on conservative mortality tables and rates of interest, as apply to all legal reserve life-insurance companies operating in the State. There is also the safeguard of the surplus funds held by each insurance department of each bank and, in Massachusetts, the assets of the General Insurance Guaranty Fund. The General Insurance Guaranty Fund has been created by payments of 4 percent of all premium income. The fund is available to all banks in the system, if needed, because of actual or possible impairment of reserve. No bank has ever had occasion to call upon this fund and payments to it were discontinued in 1921. Since then it has greatly increased in amount by interest accretions. The trustees of the General Insurance Guaranty Fund can at any time require payments to the fund to be resumed. Equalization of the ratio of mortality claims among all the banks through the General Insurance Guaranty Fund reduces the possibility of especially unfavorable mortality losses of a particular bank affecting that bank disastrously. In New York, since 1940, the

individual insurance guaranty funds have been consolidated into a central Savings Bank Life Insurance Fund. Contributions of not less than 2 nor more than 4 percent of premium income are required of the banks until investments in the Fund are retired, and thereafter not to exceed 1 percent, except with approval of the superintendent of banks, but provision is made for reduction or discontinuance of payments to this fund when it reaches a specified amount, and for resumption of payments thereafter, if necessary.

Unemployment Insurance and Unemployment- Relief Measures

**U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.**

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Unemployment Insurance Under Federal Social Security Act

The Federal Social Security Act of 1935 established a system designed to encourage the development of unemployment insurance in individual States although no general Federal system was created. Under the law an unemployment trust fund was established in the Treasury of the United States to receive the moneys deposited therein by the State unemployment funds. Under the act an excise tax was levied on the pay rolls of employers who employ 8 or more persons for 20 weeks in the calendar year. The tax was fixed at 3 percent of the total wages paid by an employer after December 31, 1938, but, under the 1939 amendments, does not include remuneration paid to an individual in excess of \$3,000 per calendar year. The taxpayer may credit against this tax 90 percent of the amount paid into an unemployment fund under a State law. It was provided that a State system may follow either the individual reserves system or the plan for pooled funds. However, State plans had to meet certain minimum standards before acceptance by the Social Security Board.

The term "employment" under the act means any service performed in the United States by an employee for his employer, except agricultural labor which includes in addition to regular farm operations a large number of processing and other operations, domestic service, service on vessels within the United States, employment by the Federal or State governments or political subdivisions, and service for nonprofit religious or charitable organizations or voluntary beneficial organizations, in schools or colleges, or as student nurses or hospital internes. The State laws may cover more kinds of employment than are covered by the Federal tax, and many of them do.

In 1935 when the Social Security Act was passed only one State—Wisconsin—had an unemployment-insurance law, but after the enactment of the Federal law the question was taken up in the legislatures of the different States and laws were rapidly enacted so that by the fiscal year 1939-40 unemployment benefits were payable under the laws of all 48 States, Alaska, Hawaii, and the District of Columbia.

Railroad employees who were formerly covered under the State systems were placed under a separate system by the act of June 25, 1938 (see p. 885).

The principal developments in the unemployment-insurance program have come about through the consolidation of Federal functions relating to public employment services and unemployment compensation in the Bureau of Employment Security. The consolidation of placement and insurance functions at the Federal level has furthered similar consolidation at the State level and the integration of the two phases of the program in the local offices. There has been a resulting flexibility in administration of the Federal-State program. Experience in State and local offices has shown the convenience to unemployed workers of a unified service through which they obtain jobs,

whenever possible, and when no suitable work is available file their claims for benefits under the State unemployment-insurance laws.

The 1939 amendments of the tax provisions for unemployment compensation made them more nearly parallel to those for old-age and survivors' insurance by changing the base for the Federal unemployment tax from wages "payable" to wages "paid" by employers subject to the tax, and by limiting the tax to the first \$3,000 paid by an employer to an employee during any calendar year.

For the calendar year 1940 State unemployment-compensation payments amounted to nearly \$520,000,000, and total payments for the year under the State laws represented compensation for nearly 51,000,000 weeks of unemployment.

Unemployment Benefits

A report in the Social Security Bulletin for March 1941, on operations of the unemployment-compensation systems, states that benefit payments increased sharply in January 1941, reaching the highest totals for any month since August 1940. More than 4.9 million continued claims were received during the month, 24 percent more than in December. The total, however, was 19 percent below that for January 1940. Benefit payments amounted to \$39,300,000, more than 27 percent above the amount for the preceding month and only 4.2 percent below the total for January 1940. The beginning of a new benefit year on January 1 for many claimants accounted for part of the increase in claims and payments during that month.

Changes in statistical reporting under the employment security program which became effective in January are reflected in the data on operations under the program during that month * * *. Reports received regularly from State employment security agencies include information on the highest number of weeks of unemployment compensated during any one week, in addition to the average number of weeks compensated per week. More than half the States reported a peak in the second week of January. The minimum number of individuals receiving benefit payments during January was nearly a million, and the average number of benefit recipients totaled 826,000. * * * Increases in payments were reported in 45 States; in only 4 were they less than 10 percent.

Table 1 shows the continued claims received, weeks compensated, and benefits paid, by States, in January 1941.

TABLE 1.—Continued unemployment-insurance claims received, weeks compensated, and benefits paid, January 1941, by State

[Social Security Bulletin, March 1941 (p. 62). Data reported by State agencies, corrected to Feb. 21, 1941]

Social Security Board region and State	Continued claims ¹		Weeks compensated				Amount of benefits paid ³
	Total number	Compensable	Number	Type of unemployment			
				Total	Partial and part-total combined ²	Partial only ²	
Total.....	4,930,669	3,722,369	3,737,483	3,343,126	394,357	.....	\$39,270,163
Region I:							
Connecticut.....	48,457	31,522	28,948	25,005	3,943	(⁴)	278,262
Maine.....	36,019	32,073	33,448	24,337	9,111	7,048	215,286
Massachusetts.....	219,051	179,969	204,726	175,467	29,259	27,764	2,012,117
New Hampshire.....	19,134	14,400	14,649	10,682	3,967	(⁴)	117,809
Rhode Island.....	36,465	31,305	31,305	25,259	6,046	(⁴)	315,799
Vermont.....	15,903	9,784	9,233	8,528	705	543	89,670

See footnotes at end of table.

TABLE 1.—Continued unemployment-insurance claims received, weeks compensated, and benefits paid, January 1941, by State—Continued

Social Security Board region and State	Continued claims		Weeks compensated				Amount of benefits paid
	Total number	Compensable	Number	Type of unemployment			
				Total	Partial and part-total combined	Partial only	
Region II:							
New York.....	810, 829	649, 884	691, 664	691, 664	(²)	(²)	\$8, 174, 792
Region III:							
Delaware.....	10, 920	7, 961	7, 910	5, 206	2, 704	2, 571	61, 303
New Jersey.....	209, 794	136, 650	133, 355	133, 355	(²)	(²)	1, 259, 862
Pennsylvania.....	402, 002	271, 166	273, 998	273, 998	(²)	(²)	2, 958, 812
Region IV:							
District of Columbia.....	26, 178	21, 181	19, 616	18, 470	1, 146	(⁴)	236, 265
Maryland.....	50, 988	45, 295	42, 209	33, 577	8, 632	8, 470	352, 536
North Carolina.....	78, 442	60, 385	62, 782	58, 466	4, 316	3, 869	295, 156
Virginia.....	46, 465	40, 810	42, 996	37, 832	5, 164	3, 979	340, 482
West Virginia.....	41, 508	30, 792	29, 661	27, 809	1, 852	(⁴)	254, 978
Region V:							
Kentucky.....	27, 970	23, 710	42, 922	34, 612	8, 310	(⁴)	303, 998
Michigan.....	126, 132	91, 654	103, 666	97, 361	6, 305	(⁴)	1, 202, 392
Ohio.....	265, 323	186, 857	191, 813	157, 921	33, 892	(⁴)	1, 795, 918
Region VI:							
Illinois.....	330, 256	283, 531	281, 925	194, 481	87, 444	69, 045	3, 227, 045
Indiana.....	93, 039	66, 051	65, 856	49, 533	16, 323	(⁴)	626, 902
Wisconsin.....	68, 321	36, 056	36, 116	33, 355	2, 781	1, 279	379, 411
Region VII:							
Alabama.....	64, 511	48, 202	46, 659	43, 530	3, 129	1, 691	308, 710
Florida.....	47, 405	34, 939	35, 905	30, 472	5, 433	(⁴)	351, 250
Georgia.....	51, 502	36, 786	36, 681	34, 352	2, 329	1, 326	244, 667
Mississippi.....	32, 395	25, 917	24, 284	22, 218	2, 066	1, 361	157, 988
South Carolina.....	35, 440	26, 004	25, 745	22, 486	3, 259	1, 804	168, 696
Tennessee.....	89, 126	71, 412	66, 640	59, 377	7, 263	3, 767	471, 115
Region VIII:							
Iowa.....	73, 524	40, 678	40, 134	35, 403	4, 731	1, 211	366, 590
Minnesota.....	139, 810	106, 097	94, 416	87, 354	7, 062	(⁴)	982, 409
Nebraska.....	31, 132	22, 250	21, 845	20, 026	1, 819	1, 072	200, 852
North Dakota.....	12, 059	8, 442	7, 541	7, 016	525	292	74, 290
South Dakota.....	8, 891	6, 923	6, 517	6, 263	254	(⁴)	48, 813
Region IX:							
Arkansas.....	44, 483	31, 040	31, 040	28, 981	2, 059	124	187, 487
Kansas.....	37, 905	21, 093	20, 624	18, 037	2, 587	1, 636	183, 104
Missouri.....	116, 024	69, 078	62, 319	51, 657	10, 662	5, 638	533, 936
Oklahoma.....	45, 987	32, 058	31, 270	26, 114	5, 156	1, 011	286, 908
Region X:							
Louisiana.....	83, 193	66, 178	65, 247	59, 137	6, 110	(⁴)	579, 271
New Mexico.....	15, 248	12, 344	10, 854	10, 210	644	264	96, 250
Texas.....	129, 862	111, 069	81, 192	66, 886	14, 306	(⁴)	633, 911
Region XI:							
Arizona.....	12, 408	9, 070	8, 872	8, 346	526	28	94, 445
Colorado.....	39, 022	30, 707	30, 319	27, 744	2, 575	1, 414	303, 309
Idaho.....	35, 087	24, 518	21, 507	20, 583	924	(⁴)	247, 033
Montana.....	43, 779	32, 189	28, 902	28, 902	(²)	(²)	322, 215
Utah.....	22, 216	18, 474	18, 380	16, 534	1, 846	348	199, 913
Wyoming.....	10, 387	7, 056	6, 162	5, 367	795	439	76, 995
Region XII:							
California.....	554, 921	455, 050	453, 937	389, 817	64, 120	47, 604	6, 256, 550
Nevada.....	13, 577	10, 608	10, 166	9, 350	816	379	134, 150
Oregon.....	66, 279	34, 816	26, 333	23, 463	2, 870	2, 128	330, 207
Washington.....	104, 937	73, 726	71, 416	63, 266	8, 150	(⁴)	887, 194
Territories:							
Alaska.....	3, 434	2, 531	2, 034	1, 901	133	0	29, 208
Hawaii.....	2, 929	2, 078	1, 744	1, 436	308	300	13, 902

¹ Waiting-period claims are represented by difference between total number and number of compensable claims.

² Benefits for partial and part-total unemployment are not provided by State law in Montana, New Jersey, New York, and Pennsylvania.

³ Includes supplemental payments, not classified by type of unemployment.

⁴ Data for partial unemployment included with data for part-total unemployment.

⁵ Payments for partial and part-total unemployment are made for benefit periods of 1 quarter. Number of weeks represented by each such payment is determined by dividing payment by claimant's benefit rate for total unemployment.

Benefit exhaustions.—The number of claimants exhausting benefit rights increased 19 percent over December to 193,000. Of the 35 States indicating more benefit exhaustions, Idaho showed twice as many claimants exhausting benefit rights in January as in the previous month, and 7 other States reported increases of 40 percent or more. For the country as a whole, first payments were almost twice as numerous as exhaustions. In most States in which uniform benefit years end in March, however, the ratio of exhaustions to first payments was high. Maine was the only State in which exhaustions exceeded first payments.

Size of benefit payment, fourth quarter, 1940.—The size of benefit payments compensating workers for periods of total unemployment during the fourth quarter of 1940 showed little change from previous quarters of the year. Approximately 28 percent of the weekly benefit payments issued to workers who were totally unemployed were in amounts of \$15 and over, and 30 percent ranged between \$10 and \$14.99. Payments for less than \$5 accounted for 4 percent of total checks issued. As in the previous quarter, the largest number of checks—38 percent—were issued in amounts of from \$5 to \$9.99 not only for the country as a whole but also in 38 States. In 23 of these States the number of checks issued in these amounts comprised more than half of all benefit payments for total unemployment.

Table 2 shows the percentage distribution of number of weeks of total unemployment compensated, by amount of benefit payments, and proportion at minimum and maximum benefit payments, by States, for the last quarter of 1940.

TABLE 2.—Percentage distribution of number of weeks of total unemployment compensated, by amount of benefit payment, and proportion at minimum and maximum benefit payable, by State, October-December 1940

[Social Security Bulletin, March 1941 (p. 67). Data reported by State agencies, corrected to Feb. 6, 1941]

Social Security Board region and State	Total number of weeks compensated	Percent of weeks compensated ¹ in amounts of—				Minimum weekly benefit		Maximum weekly benefit	
		Less than \$5.00	\$5.00 to \$9.99	\$10.00 to \$14.99	\$15.00 and over	Amount	Percent of total weeks compensated	Amount	Percent of total weeks compensated
Total.....	7,975,815	4.0	37.9	30.0	28.1				
Region I:									
Connecticut.....	62,899		51.4	33.8	14.8	\$5.00	0.5	\$15.00	14.8
Maine.....	83,600	26.4	58.4	13.8	1.4	* 3.00	9.7	15.00	1.4
Massachusetts.....	502,478		45.0	30.8	24.2	* 6.00	16.0	15.00	24.2
New Hampshire.....	36,569		64.2	25.9	9.9	5.00	11.5	15.00	9.9
Rhode Island.....	68,674		32.3	38.2	29.5	6.00	.2	16.00	25.1
Vermont.....	15,457	2.0	69.8	17.7	10.5	None		15.00	10.5
Region II:									
New York.....	1,539,151		34.7	31.7	33.6	7.00	18.6	15.00	33.6
Region III:									
Delaware.....	12,064		61.1	24.6	14.3	5.00	14.0	15.00	14.3
New Jersey.....	272,400		51.3	27.9	20.8	5.00	8.2	15.00	20.8
Pennsylvania.....	618,290		46.2	32.9	21.9	7.50	25.6	15.00	21.9
Region IV:									
District of Columbia.....	48,760	.1	32.5	40.2	27.2	* 6.00		* 18.00	15.8
Maryland.....	97,575		57.0	25.8	17.2	5.00	12.4	15.00	17.2
North Carolina.....	161,049	56.5	36.5	4.8	2.2	1.50	4.8	15.00	2.2
Virginia.....	96,684	9.6	59.9	21.4	9.1	3.00	4.1	15.00	9.1
West Virginia.....	79,613	20.6	40.8	29.5	9.1	3.00	6.4	15.00	9.1
Region V:									
Kentucky.....	110,397	12.8	59.1	23.9	4.2	* 4.00	5.2	* 15.00	4.2
Michigan.....	242,057		32.4	32.0	35.6	6.00	.8	16.00	30.3
Ohio.....	338,911	6.2	44.7	30.8	19.3	None		15.00	19.3

TABLE 2.—Percentage distribution of number of weeks of total unemployment compensated, by amount of benefit payment, and proportion at minimum and maximum benefit payable, by State, October-December 1940—Continued.

Social Security Board region and State	Total number of weeks compensated	Percent of weeks compensated ¹ in amounts of—				Minimum weekly benefit		Maximum weekly benefit	
		Less than \$5.00	\$5.00 to \$9.99	\$10.00 to \$14.99	\$15.00 and over	Amount	Percent of total weeks compensated	Amount	Percent of total weeks compensated
Region VI:									
Illinois.....	450,965	.....	15.7	34.2	50.1	7.00	4.9	16.00	45.0
Indiana.....	115,915	.8	35.6	38.3	25.3	3.00	.1	15.00	25.3
Wisconsin.....	58,697	.....	41.2	35.6	23.2	2 6.00	11.7	4 15.00	20.5
Region VII:									
Alabama.....	146,256	25.3	59.0	11.2	4.5	2 2.00	5.8	15.00	4.5
Florida.....	121,684	4.1	41.8	30.4	23.7	3.00	.7	15.00	23.7
Georgia.....	115,767	8.8	77.3	9.0	4.9	None	.....	15.00	4.9
Mississippi.....	60,357	24.0	63.8	7.8	4.4	2 3.00	7.7	15.00	4.4
South Carolina.....	67,295	12.3	74.7	9.3	3.7	3.00	4.3	15.00	3.7
Tennessee.....	144,032	13.6	65.6	15.0	5.8	2 4.00	13.6	15.00	5.8
Region VIII:									
Iowa.....	56,797	1.3	51.2	30.2	17.3	None	.....	15.00	17.3
Minnesota.....	158,551	.....	43.1	33.0	23.9	5.00	8.1	15.00	23.9
Nebraska.....	34,476	.....	57.1	28.9	14.0	5.00	14.8	15.00	14.0
North Dakota.....	9,515	.....	52.4	28.8	18.8	5.00	12.2	15.00	18.8
South Dakota.....	8,263	25.3	50.6	16.4	7.7	2 3.00	2.6	15.00	7.7
Region IX:									
Arkansas.....	69,067	34.0	49.7	10.2	6.1	3.00	20.4	15.00	6.1
Kansas.....	38,516	(⁶)	50.1	28.5	21.4	2 5.00	18.5	15.00	21.4
Missouri.....	142,604	4.0	57.1	23.2	15.7	None	.....	15.00	15.7
Oklahoma.....	65,499	4.5	46.4	26.3	22.8	None	.....	15.00	22.8
Region X:									
Louisiana.....	157,096	11.6	50.3	21.0	17.1	2 3.00	.4	18.00	11.3
New Mexico.....	27,944	11.5	44.9	25.5	18.1	3.00	3.6	15.00	18.1
Texas.....	202,173	.....	64.1	18.5	17.4	2 5.00	18.8	3 15.00	17.4
Region XI:									
Arizona.....	24,038	1.1	38.8	30.3	29.8	None	.....	15.00	29.8
Colorado.....	60,291	(⁷)	49.1	29.7	21.2	2 5.00	6.7	15.00	21.2
Idaho.....	26,501	.1	32.0	47.4	20.5	2 5.00	3.0	18.00	4.0
Montana.....	47,613	.....	38.3	32.4	29.3	5.00	8.4	15.00	29.3
Utah.....	34,778	.....	41.4	34.2	24.4	5.00	7.0	16.00	19.9
Wyoming.....	11,620	.....	27.3	29.8	42.9	5.00	2.6	18.00	30.3
Region XII:									
California.....	936,471	.....	.5	45.4	54.1	2 10.00	.2	2 18.00	37.4
Nevada.....	17,722	.....	9.7	26.7	63.6	5.00	.5	15.00	63.6
Oregon.....	43,840	.....	16.2	28.9	54.9	7.00	3.8	15.00	54.9
Washington.....	124,214	.....	16.0	28.3	55.7	7.00	5.5	15.00	55.7
Territories:									
Alaska.....	4,386	.....	4.7	8.9	86.4	5.00	.8	16.00	84.0
Hawaii.....	6,244	.....	68.8	20.7	10.5	5.00	30.2	15.00	10.5

¹ Excludes final payments for less than benefit rate.

² Recent amendments to State laws have changed minimum and maximum weekly benefit payable. During transition period, payments are made under both provisions of law. Figure shown is minimum as provided for in amended law, and percentage shown relates to payments at that minimum only.

³ For each benefit period of 14 consecutive days, Kentucky pays minimum of \$8 and maximum of \$30, and Texas pays minimum of \$10 and maximum of \$30.

⁴ Under provisions of law, it is possible for some payments to exceed maximum.

⁵ Less than 0.05 percent.



Railroad Unemployment Insurance

A comprehensive system of unemployment insurance for employees of carriers engaged in interstate commerce was established by an act of June 25, 1938. This act removed railroad employees from coverage in the State unemployment-insurance systems. The system is maintained by contributions made exclusively by the carriers, which cover both the unemployment benefits and costs of administration of the act. The contribution amounts to 3 percent of the compensation of employees up to a maximum of \$300 per month. Employees of every carrier (express company, sleeping car company, or carrier by railroad subject to part I of the Interstate Commerce Act) and any company directly or indirectly owned or controlled by one or more car-

riers are covered by the law. Also covered are employees of various associations, agencies, or bureaus maintained by two or more carriers and railway labor organizations.

Benefits became payable June 30, 1939, and were payable for each day of unemployment in excess of 7 during any half month. The original law provided for a waiting period of at least 15 consecutive days of unemployment or 2 half-months during each of which an individual had at least 8 days of unemployment, but an amendment to the act passed in 1939 provided that qualified claimants are entitled to benefits for every day of unemployment in excess of 7 in the first registration period of 14 consecutive days and for every day of unemployment in excess of 4 in subsequent registration periods, up to a maximum of 100 daily benefits in the benefit year. The first 7 days of unemployment in the first registration period after November 1, 1940, the effective date of the amended act, constitute the waiting period for the benefit year. Claimants who completed a waiting period between June 30, 1940, and November 1, 1940, were not required to serve another waiting period, and were entitled to receive benefits for every day in excess of 4 in the registration period.

An employee is qualified to receive benefits if he has received compensation of not less than \$150 during the base year. The daily benefit rate rises in 25-cent intervals with each increase of \$275 in base-year compensation from \$1.75 for employees with compensation of \$150 to \$199.99 to \$2.50 for employees with compensation of \$750 to \$999.99. For compensation groups of \$1,000 or over, the daily benefit rate rises in 50-cent intervals with each increase in compensation, from \$3 to the maximum of \$4 where compensation is \$1,600 or more.

The railroad unemployment-insurance system is administered by the Railroad Retirement Board.

The following table shows the claims received, including those filed under provisions of the act prior to amendment, claims certified, and average benefit per certification, November 16, 1940, to February 28, 1941.

*Total claims received and certified, and accounts opened, under railroad unemployment insurance, by region, Nov. 16, 1940-Feb. 28, 1941*¹

Region	Claims received ²		Claims certified—			Average benefit per certification		Accounts opened ³
	Number	Percent with 14 days of unemployment	For waiting-period credit only	For waiting-period credit and benefits	For benefits only	With waiting-period credit	Other	
All regions.....	517,760	62.5	2,987	74,592	364,304	\$14.17	\$20.05	82,970
New York.....	89,057	58.4	691	11,698	59,548	13.87	19.89	13,220
Cleveland.....	54,087	62.1	400	9,256	36,320	13.31	19.67	10,106
Chicago.....	105,268	65.0	530	15,020	76,997	14.71	20.47	16,729
Atlanta.....	42,206	58.7	204	5,007	29,560	14.41	19.40	5,439
Minneapolis.....	52,507	70.1	258	7,963	39,686	14.55	20.66	8,739
Kansas City.....	68,521	52.2	315	10,553	48,575	13.70	19.71	11,558
Dallas City.....	27,615	50.7	146	2,726	19,198	13.43	18.55	3,171
Denver.....	33,445	62.3	208	5,442	22,980	13.97	20.01	6,074
Seattle.....	21,511	69.9	92	3,653	15,278	15.07	20.26	4,081
San Francisco.....	23,543	65.1	143	3,274	16,162	15.28	21.87	3,853

¹ The Railroad Retirement Board. The Monthly Review, April 1941.

² Includes claims filed under provisions of act prior to amendment, which were received on November 16 or subsequently. The number of such claims is estimated at approximately 11,000. The total shown in the table excludes 330 claims under provisions of amended act received prior to November 16.

³ Excludes accounts opened in July-October 1940 and reopened under provisions of amended act. Figures based on tabulation of a 20-percent sample.

State Unemployment-Compensation Laws, as of December 31, 1941¹

As noted elsewhere, the Social Security Act did not establish a system of unemployment compensation, but merely provided the means whereby the States were encouraged to establish their own unemployment-compensation programs. This was accomplished by grants-in-aid to the States for the administration of State unemployment-compensation laws and the levying of a uniform pay-roll tax on employers of 8 or more workers, against which a 90-percent credit is allowed for contributions made by such employers to State unemployment funds.

Although the States must comply with certain standards set forth by the Social Security Board in order to obtain the benefits given by the act, they have considerable latitude in their choice of a system of unemployment compensation best suited to the conditions existing in each State.

Coverage of Laws

In all of the State laws, the inclusion of the individual worker depends on the type of employment in which he has been engaged. All of the acts exclude certain occupations from coverage, such as agricultural labor, domestic service in a private home, Government employment, service for relatives and religious, charitable, and other nonprofit institutions. Since railroad employees are now covered under the Federal Railroad Unemployment Insurance Act, they also are excluded from the State acts.

In determining whether a given employer is subject to the act all except three States (Idaho, Nevada, and Utah) base coverage on number of workers employed. In these three States the amount of pay roll is the means of determining coverage, but in five additional States (Kentucky, Montana, New Mexico, Oregon, and Wyoming), the amount of the pay roll is used as a basis additional or alternative to number of workers. Of the jurisdictions basing coverage on the number of workers employed, 21 follow the plan prescribed by the Federal act and cover only employers who have employed 8 or more workers in at least 20 days, each of which is in a different week, while 3 States cover those with 8 or more employees at any time within 20 weeks, and 1 (Iowa) covers those with 8 or more in 15 weeks. Nine States cover those with one or more employees; 9 those with four or more; and the remaining jurisdictions those with two or more (1 State), three or more (2 States), five or more (1 State), and six or more (2 States). In several States, employers are subject to the act if they have a sufficient number of workers throughout the United States to be subject to the Federal unemployment tax, but do not have enough employees within the State to come under the State law.

Financial Provisions

The unemployment-compensation systems of the States are financed by contributions of employers based on the wages of their employees, although five States (Alabama, California, Kentucky, New Jersey,

¹ Summary of article by Alfred Acee, Bureau of Labor Statistics, in *Monthly Labor Review* for November 1940, with addition of later data.

and Rhode Island) also require the workers to contribute. In 44 jurisdictions the contributions are placed in a State-wide pooled fund from which all benefits are paid. In seven States (Indiana, Kentucky, Nebraska, North Carolina, South Dakota, Vermont, and Wisconsin) all or part of the contributions are paid into individual reserve accounts; in these States contributions paid by an employer are available solely to pay benefits to his former workers, but after an individual reserve account is exhausted, payments may be made from a State pooled account.

The standard rate of contributions required of employers is 2.7 percent in all States except Michigan which has a 3-percent rate. However, in 17 of the States² the contribution rate may be varied from the standard rate if the employer's experience rating warrants it. Experience rating is a method by which individual employer contribution rates are determined according to the employer's past employment record or benefit experience. Employee contributions, which are required in five States, are also based on wages but the rates of contribution are lower.

Benefits

The amount of benefits which a worker receives while unemployed is determined by his wages or employment in a past period of time, usually called a "base period." Generally, this period is a year divided into four quarters of 13 weeks each and is used to determine a worker's earnings for eligibility, his weekly benefit, and the duration of benefits. Under most of the State laws, benefits are paid to a totally unemployed worker at the rate of 50 percent of his full-time weekly wage. In five States an actual reported full-time weekly wage is used, but as an alternative, where there is no full-time wage or where its use would be arbitrary or unreasonable, full-time weekly wages are computed as one-thirteenth, or other fraction, of the worker's wages in the calendar quarter in which his wages were greatest during the base year. Thus, the benefit rate under this alternative plan in most of these five States is one twenty-sixth of the worker's earnings in the "highest quarter" of the year. Most of the other States compute the benefits as a fraction of the total wage for 13 weeks. In nine States the benefit rate is one-twentieth, in one State one twenty-second, in two States one twenty-third, in ten States one twenty-fifth, and in 8 States one twenty-sixth.

Maximum weekly payments of \$15 are provided in the laws of 30 States, but in 8 jurisdictions (Alaska, Illinois, Indiana, Michigan, Minnesota, Ohio, Oklahoma, and Rhode Island) the maximum is \$16, and in 8 other jurisdictions (California, District of Columbia, Georgia, Idaho, Louisiana, Missouri, New Jersey, and Wyoming) the maximum is \$18. The maximum weekly payment is \$17 in Maryland and Wisconsin and \$20 in Connecticut, Hawaii, and Utah. Fifty jurisdictions have established a flat minimum weekly benefit, which ranges from 50 cents in Missouri to \$10 in California and Oregon.

² Alabama, California, Connecticut, Hawaii, Indiana, Kansas, Kentucky, Minnesota, Nebraska, New Hampshire, Oregon, South Dakota, Texas, Vermont, Virginia, West Virginia, and Wisconsin.

There is also a limitation on the number of full weekly benefits which a worker may receive within a certain length of time (usually 52 weeks), called the "benefit year." In 16 States this "duration of benefits" is uniform for all unemployed workers, but in the other jurisdictions it varies in relation to past earnings (or employment, in Wisconsin). In these jurisdictions duration is based on a fraction of earnings during the four or more quarters of the base period, with a maximum of a given number of multiples of the weekly benefit rate. The most common maximum duration of benefits is 16 times the weekly benefit amount.

Most States provide for the payment of compensation for partial unemployment. It is interesting to note in this connection that in a number of States part-time or odd-job earnings are disregarded in determining whether a worker is totally or partially unemployed, and in some States earnings of small amounts are not considered in determining the question of unemployment and calculating weekly benefits. In most States a worker is entitled to a partial benefit if he is working less than full time and earning less than his benefit rate for complete unemployment.

Qualification for Benefits

Under all of the State unemployment-compensation laws, an unemployed worker must comply with certain requirements in order to be eligible for benefits. Generally, the worker is required to file a claim for benefits, to be able to work and be available for work, to register at a public employment office, to have earned a certain amount of money, or to have been employed previously for a stated period, and to have served a waiting period.

Every State provides for the disqualification of a worker for benefits under certain conditions, such as discharge for misconduct, refusal to accept suitable work, etc. Workers who have refused to accept suitable work and workers on strike are disqualified in all jurisdictions, while in every State, except Pennsylvania, employees who have been discharged for misconduct are disqualified. In addition, all States bar from benefits a worker who left his job voluntarily without good cause. Many States also refuse payments to a worker who is receiving workmen's compensation for temporary partial disability or other specified type of remuneration such as old-age benefits.

Waiting Period

Every State requires a "waiting period" to be served by a worker after he becomes unemployed and before benefits may be paid. This period, which varies from 1 to 3 weeks, is the period of unemployment after a claim for benefits has been filed and during which no compensation is paid. The waiting period is either 1 or 2 weeks in all except three States (Alabama, New York, and Pennsylvania), where 3 weeks is required. The majority of the States require only one waiting period during 52 weeks, usually called the benefit year.

Changes in Dismissal-Compensation Plans, 1935 to 1938¹

As shown by an earlier study, more than 200 American firms paid dismissal compensation during the period 1928 to 1933 to assist employees who were permanently laid off primarily because of technological changes or depression conditions.² With the passage of the Social Security Act in 1935 and the adoption of unemployment-compensation laws in all 48 States, the District of Columbia, Alaska, and Hawaii, employers had to reconsider their own plans to combat economic insecurity. A large number of companies revised their retirement systems to supplement annuities payable under title II of the Social Security Act. Many of the company unemployment-benefit and guaranteed-employment plans were modified or abandoned. Although the various unemployment-insurance laws do not specifically provide for dismissal compensation,³ except as they include permanent lay-offs, a similar process of adaptation has been taking place in many dismissal-compensation plans. Such policies still form a part of the industrial-relations programs of several hundred American companies.

The present study is based on returns from 88 out of 105 companies which were addressed by mail on November 14, 1938. The firms selected were known by the author to have had considerable experience with dismissal compensation. An attempt was made to include various types of manufacturing concerns, oil refineries, banks, stores, and public utilities scattered throughout the United States. Obviously the more industrialized States of Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Indiana, Michigan, Illinois, Wisconsin, Missouri, and California have greater representation in the sample than others, although several of the companies questioned operate in all, or most, of the States of the Union. The 88 firms employ over a million and a half workers, indicating that the group includes a number of very large employers. In fact, only 5 companies have fewer than 1,000 workers, but 40 have 5,000 or more. Any conclusions drawn from this summary must take into account these characteristics of the sample.

Plans With No Changes

The following table summarizes the number of changes since 1935 in the dismissal-compensation policies of the 88 firms. Eighteen companies reported no change had been made and none was contemplated at the time of reporting. A midwestern company explained:

The adoption and operation of unemployment insurance by the various States will, we believe, have no effect upon our policy and practice relating to dismissal compensation * * * for the reason that we pay a dismissal wage or compensation only to those employees who are permanently dismissed because they have not proven entirely suited to the job; whereas no dismissal wage is paid by us to employees merely laid off on account of lack of work and whom we will willingly reemploy, when conditions warrant. Therefore * * * the existence of the unemployment-insurance laws should have no effect upon our dismissal-wage procedure.

¹ Abstract of article by Everett D. Hawkins of Mount Holyoke College, in the *Monthly Labor Review* for March 1939.

² See *Handbook of Labor Statistics*, 1936 edition (pp. 831-835): Dismissal Compensation in American Industry.

³ The Massachusetts and Rhode Island laws allow lump-sum payments instead of periodic unemployment benefits in certain special cases.

Changes made or planned in dismissal-compensation policy of 88 firms, classified by type of business, 1935-38

Policy	Number of firms, by type of business						
	Total	Manu- fac- turing	Oil re- fining	Public utility	Mer- can- tile	Bank- ing	Miscel- laneous
Total.....	88	38	8	15	16	8	3
No change made and none contemplated.....	18	9	-----	3	3	3	-----
No change made.....	26	9	1	5	6	4	1
No change made, but change contemplated.....	15	6	1	4	3	1	-----
Change made, but no relation to Social Security Act.....	11	2	3	3	2	-----	1
Change made related to Social Security Act.....	15	10	3	-----	2	-----	-----
Plan discontinued.....	3	2	-----	-----	-----	-----	1

Twenty-six companies did not comment on the future, but replied that they had not changed their policies. Several reasons were offered for continuing their present plans. A public utility stated, "At various times when lay-offs were necessary, we have fairly regularly given one-half week's pay for each year's service, with a minimum of 2 weeks. We have had very few instances of this kind since 1935 and so will definitely say that the passage of the social-security laws has had no effect on our plans for dismissal compensation." Several companies with informal plans replied in the following vein: "This company has no generally defined policy in regard to dismissal wages. We have, however, paid dismissal wages to a number of employees, but each case is decided on its merits; therefore, no changes have been made in our policy since the beginning of social-security legislation."

Plans With Contemplated or Actual Changes

Fifteen companies have kept their old dismissal policies, but have contemplated, or are engaged in making, some modification. A large chemical firm intends "making some changes as soon as practicable. We have not yet made these changes because of the fact that substantial numbers of our employees are located in States in which unemployment-insurance benefits are not yet available."

Of the 29 company plans which were definitely modified from 1935 to 1938, 11 were reported as not caused by the Social Security Act, 15 were related to that legislation, and 3 were discontinued entirely. One of the discontinued plans was given up for financial reasons, another had been adopted only for an emergency situation, and the third one (with relatively small payments) was terminated because of the public system of unemployment benefits.

The following explanations were given by the 11 companies which adopted new plans for reasons other than the Social Security Act: Six formalized their policies, 2 raised their scale of benefits because of improved business conditions, 1 increased compensation because of a merger, 1 reduced benefits because of a new public contract, and 1 signed a collective agreement with a trade-union, covering dismissal procedure.

The scale of dismissal compensation adopted by a large food company in 1938, and similar to one used by an oil company, is notable

because it varies allowances with the wages, age, and service of the dismissed employee. Like many other highly developed policies, the compensation is increased more rapidly for those with longer service. The plan defines clearly the cases for which compensation is and is not paid, the method of computing average earnings, attained age and length of service, the procedure in case of reemployment, the notice to be given, and the approval to be secured from company officials before making any payments. The allowances are to be paid in a lump sum on the date of termination, with periodic payments only in exceptional cases which have secured executive approval.

Even among the 15 companies with plans in which changes were made which were related to the Social Security Act, the systems vary considerably. Three oil companies with highly developed plans have deducted unemployment insurance from the amount of dismissal compensation granted. One of these firms, however, declared, "We are still in some doubt as to the merits of deducting for amounts payable under the law * * * and we may ultimately make another change which may eliminate the 'law' deduction and make the over-all program applicable only to employees with, say 10 or more years of service, rather than 5 years as at the present time."

Two firms have adopted new plans applicable only to those not eligible for unemployment insurance. As a result of financial conditions, one firm has given up its plan for short-service workers, but still pays compensation to long-service employees on an individual basis because "the social-security laws have not been in effect long enough to erase our obligation to superannuated employees." Another company cut its notice or pay in lieu of notice for factory workers, but kept the larger payments for those with some years of service.

Two companies have tried to link their dismissal payments to the terms of the particular State statute. One of these, a large department store, adopted on January 1, 1939, a plan to make full payments during the 3 weeks' waiting period of the State law, followed by half pay (or more for those receiving over \$30 a week) for the 16 weeks covered by law, and then an additional week's pay for each added year of service.



Share-the-Work Provisions in Union Agreements ¹

Few plants or trades are unaffected by seasonal fluctuations. Even where work has been regularized on a yearly basis, there remains the problem of unemployment or partial employment caused by general business depressions. At certain times, in certain industries, there is also unemployment resulting from changes in style and improvement in processes or machinery. This latter, as well as prolonged downswings in the business cycle, may lead to permanent reduction of a plant's force, at least as far as particular groups of workers are concerned. Serious seasonal fluctuations may also result in the permanent displacement of some of the workers.

¹ From article in *Monthly Labor Review*, June 1940 (p. 1340).

For those finally laid off, the union agreement can provide no permanent solution, although dismissal-wage provisions² offer some temporary assistance. For short-time declines in business production, some unions have worked out plans whereby available work is distributed as evenly as possible among all the workers. These share-the-work plans have the effect of deferring lay-offs or, if production is resumed before too long a time has elapsed, of preventing lay-offs altogether. Sharing the work, of course, does not increase the total labor income—it merely distributes what income there is among the entire labor force.

If such sharing of the work results in the spreading of employment to such an extent that none of those covered receives even a subsistence wage, the merits of a share-the-work plan can be seriously questioned. To obviate such a situation, some union agreements provide that work shall not be shared below an established number of hours per week and that lay-offs must take care of any further reduction which might be needed. For such lay-offs the union agreement usually provides certain formulae, such as straight seniority, and combination of seniority and merit.³

In any application of a share-the-work plan, a basic consideration is the number of workers who are covered; that is, the extent of the spread of available work. Some union agreements, for instance, provide that workers recently employed be laid off before there is any sharing of work for the remaining older employees. Others provide that the sharing-of-work plans shall be applied on an occupational basis; some on a plant-wide basis. Such variations in plans have been developed as a result of a union's past experimentation—the reaction of its members, as well as the response from the employers. The intrinsic nature of the business or the plant's operation is a fundamental factor. For instance, if there is a wide difference in skill requirements for some or all of the occupations, the share-the-work plan is likely to be either on an occupational basis or to provide certain exemptions or modifications.

In unions covering particular craftsmen who are engaged intermittently by a number of employers, such as in the building trades or longshoring, sharing of work may be on a city-wide basis or applied through the rotation of job assignments at the hiring hall.

Regulating Overtime To Spread Work

Many agreements first attack the problem of distributing available work through regulation or prohibition of overtime. Almost every union agreement includes provisions governing overtime work. Many of these are designed to protect the regular maximum workday or workweek through such provisions as those requiring payment of a higher rate for hours worked in excess of the regular number. In some cases, however, the overtime provisions are designed to prevent some members of the union from working extra hours while other members are unemployed.

² Dismissal-wage plans most frequently occur in agreements of the Newspaper Guild. See *Monthly Labor Review*, April 1940 (pp. 832-833). A Nation-wide agreement on the railroads provides dismissal compensation for those laid off because of consolidations.

³ See *Monthly Labor Review*, December 1938: *Seniority Provisions in Union Agreements*.

Some highly seasonal industries, such as the men's and women's clothing industries, prohibit overtime entirely. In these cases the prohibition of overtime tends somewhat to lengthen the busy season and to curtail the periods when the shops in the industry are shut down.

In some agreements overtime work is prohibited only when there is some unemployment among members of the union. In unions which organize the workers in a trade into a city-wide local, overtime is sometimes prohibited as long as any member of the local union—regardless of his previous place of employment—is unemployed. In other agreements overtime may be prohibited only when regular employees of a department or plant are unemployed. A variation of this type of provision prohibits overtime until plant facilities are being utilized full time.

Although most unions prefer to require that overtime work be paid for at a higher rate, most of the printing unions, in order to divide available work, require their locals to make rules for the cancelation of overtime by employing unemployed members as substitutes. For instance, the Typographical Union requires any member who has worked overtime to take an equivalent time off during the regular hours and give that time to a substitute, as long as competent substitutes are available. The substitute must be engaged as soon as the amount of overtime equals two-thirds of a regular workday. If the agreement sets a 5-day week, work on the sixth or seventh day of the week is also to be canceled by the employment of a substitute at the first opportunity.

Division of Available Work

Many agreements provide for the equal division of available work during slack seasons. Such a provision entirely prevents lay-offs during the life of the agreement, which is usually 1 year. All of those employed at the time the agreement was signed remain on the company's pay roll, even though the hours they actually work may be reduced to a mere fraction of the regular workweek.

In a few industries equal division of work is obtained by rotating the regular employees. Longshore workers on the Pacific Coast are given available work in rotation. Under the union agreement longshoremen seeking work must register at the port's hiring hall. As the employers request help, the men are dispatched from the hiring hall in rotation. By keeping records on the number of hours each longshoreman works, the hiring hall distributes work evenly among those registered. Brewery agreements usually specify that an employee will work alternate periods during the slack season. In this industry extra workers are frequently hired during the busy season. These extra workers must secure a permit card from the union before starting to work and are called "permit-card men." Before rotation of work is instituted in the plant, all extra workers are laid off.

In building construction there may be rotation of work when the agreement requires contractors to secure all employees through the union. Since most building-construction employment is intermittent, a new working force is sent out by the union when a job begins. The union may therefore secure sharing of work by sending workers out in

rotation, according to the length of time they have been unemployed. The Musicians' Union sometimes rotates work in the same way.

Some agreements do not attempt to distribute available work during the slack season to all employees of a company, but divide the employees into groups according to the departments or occupations in which they are employed. The available work is then divided among the employees in that grouping. Agreements of craft unions which provide for work sharing necessarily come within this group, since the craft unions bargain only for a single occupation or a few related occupations.

Unions which organize all workers in a city into a city-wide local regardless of their place of employment may adopt the practice of reducing the maximum weekly hours throughout the city during a slack season. This has the effect of spreading available work among the workers, but does not provide for an equal distribution. The significance of this type of provision is that work sharing is attempted on a city-wide basis and the union thus goes beyond the attempt merely to distribute available work among those employed by a single company.

Such provisions are likely to be used extensively in periods of serious business depression when the unemployment exceeds that due to seasonal fluctuations. Some provisions of this type do not specify the reduced maximum hours, but leave the matter to joint determination at the time the slack work occurs. In this way, the amount of the reduction can be determined according to the seriousness of the slump in business. Others provide for an automatic reduction in working hours as soon as a specified percent of the union members throughout the city are unemployed.

Combined Work-Sharing and Lay-Off Plans

In cases of severe seasonal depression or a downward fluctuation in the business cycle, both the company and the employees may object to strict application of the equal division of work principle. Some agreements therefore provide for two steps when business falls off: First, equal division of work until hours are reduced to a specified point (usually 24 or 32 hours a week); second, if further curtailment is necessary, lay-off of the regular employees, usually according to seniority. Occasionally the questions of when lay-offs are to begin and the method of lay-off are left to subsequent negotiation. Such plans may be applied to the plant as a whole or separately to each department or occupation.

Since employees in a slack department may be laid off while those in other departments with less seniority continue at work, some agreements include guaranties for such employees. For example, one company agrees to give "first consideration" to the transfer of employees with 3 or more years of service to another department. A second specifically requires the transfer of employees from one classification to another in order to recognize seniority rights. This provision has the additional feature of postponing lay-offs by requiring the department to operate on a short week for at least 8 weeks before laying off any employee.

Experience of a Group of Plants in Stabilizing Employment¹

Evidence that many companies have been making serious efforts to regularize employment is afforded by a study made in 1940 by the National Association of Manufacturers, covering 183 of its members.² The companies included in the survey were selected entirely at random and because of their diversification—industrially, geographically, and in regard to size—are considered to represent a fair cross section of the country's industrial concerns.

The data submitted by the companies show that there has been serious study of the subject of employment regularization and an increasing effort to control fluctuations in production. Success has been greatest in consumer-goods industries; but even in industries (such as those producing capital goods) where the factors that control production are largely of an external nature and beyond the control of management, the effort has been made to flatten production peaks and attain some degree of employment continuity.

The practical effects of improved employment stability are felt by both the workers and the employers. Employees benefit in the matter of their security and in their sustained income; a better employer-employee relationship is maintained; and employers gain in the increased efficiency of their plants and in financial savings. A more stable level of employment has been found to overcome the wastefulness of irregular operation with its direct and indirect costs including the burden of overhead costs, higher production costs, and losses from idle machines and equipment. Another serious cost factor arising from irregular employment is impairment of the workers' efficiency and productiveness which results from their feeling of insecurity.

As there are great variations in the problems and conditions which different types of industries have to meet, it is difficult to measure the extent to which the companies surveyed have succeeded in providing more regular employment. In some cases conditions are such that stable employment can be secured only for a particular group of employees or a division or department. A large number of companies reported that they had succeeded in regularizing employment for their long-service or "regular" employees, with a smaller number reporting that it had affected the entire force. In other cases the employment of specific groups only could be regularized, or in a few cases, only that basic unit of production employees generally termed "class A." The question of the number of hours of work is often an important factor, and while there was a difference of experience among the companies, the largest number reported that they had been able to maintain some degree of employment regularity only through fluctuation in the length of the workweek. The report points out that any employment regularization effected in

¹ From the Monthly Labor Review for May 1940.

² National Association of Manufacturers. *Employment Regularization*. New York, 1940.

the past 3 or 4 years has been attained in the face of serious fluctuations in the volume of business and production.

The results of the attempts of the different companies to solve the regularization problem, it was felt, would be shown by the relation of their employment curve to their production or sales curve. In a large majority of the companies it was found that the employment curve was definitely more stable and maintained a considerably better level than did the production or sales curve.

In a substantial number of cases companies reported that their employment curve has been more stable for several years, and in some cases for a considerable period of time—10 years, 20 years, and longer. Many companies reported this greater stability of employment for the past 3 years; several for the past 2 years; and a few made a special point of the fact that during the past 12 months their careful planning and strenuous efforts have resulted in an increased stability of employment.

Methods for Regularizing Employment

The reports of the companies showed that their efforts had been directed primarily at the two chief factors in employment instability—seasonal fluctuations and cyclical business swings. The methods and techniques followed fell in four main groups, i. e., production, distribution, personnel, and management.

Production control through careful and advance planning is the best-known and most common method for the control of seasonal fluctuations. This involves study of the company's past records, particularly of long-term trends, and consideration of current business conditions throughout the country and the industry; close coordination of manufacturing, sales, advertising, and warehousing departments; scientific production control, budget control, and inventory control; study of the warehousing problem; manufacturing for stock in slack periods and maintaining low inventories in busy seasons.

The distribution problem is attacked by plans for stimulating off-season business; special discounts on slack-season orders; special sales campaigns to promote spreading of the year's business; future billing for early deliveries; the introduction of new models in dull seasons; the use of special advertising to change consumer buying habits; and special advertising campaigns to develop new uses for old products.

In dealing with personnel questions, the methods followed involve forecast of personnel requirements in relation to estimated sales volume and production budget; training employees for greater versatility; departmental interchange of workers; the use of "special squadrons" to carry peak production loads in different departments on a rotating basis; work sharing; flexible workweek; retaining specialized groups of workers in dull seasons at lower rates to do miscellaneous plant work; interchange of employees between a company's different plants according to production requirements; control of hiring so as to avoid hiring too many new employees in peak seasons; and averaging of work hours—a method which is now restricted by the wage-hour law.

Management methods which affect stabilization measures involve the use of scientific management techniques; diversification of products; development of new products and improvement of old products; waste reclamation and plant maintenance and repair work done as far as possible in slack periods; and closed-down vacation periods to avoid hiring extra workers for short periods.



Stabilizing the Millinery Industry ¹

Gains in employment and earnings for the employees and increased business and earnings for manufacturers in the New York millinery market were recorded for 1938 and 1939. During this period employers and workers had cooperated in an organized effort to stabilize the industry for the benefit of both. The economic condition of the industry had been singularly unfavorable during the preceding decade, and in 1936 the Millinery Stabilization Commission, Inc., was created by joint agreements between workers' and employers' organizations of New York City and later of New Jersey,² for the purpose of formulating and putting into practice plans and policies for the rehabilitation of the industry.

The Millinery Stabilization Commission is an unofficial supervisory and administrative board. It is composed, not of representatives of the parties to the agreements, but of three disinterested citizens,³ agreed upon by the parties and serving without pay. Its activities are financed by the sale of the "consumers' protection label." The use of this label is granted, on payment of the price thereof, to members who agree to maintain the best working conditions and highest labor standards and to comply with the code of fair trade practices adopted by the commission after extended study and a public hearing. Virtually all the firms in the New York millinery market⁴ have entered into such agreements and been licensed to use the label.

The commission has promulgated a revised code of fair trade practices. It collects statistics of the industry, investigates cases of fraud and takes prompt action thereon, actively promotes sales, and seeks in other ways to promote the interests of the industry. As evidence that conditions in the New York millinery market have improved under the supervision of the commission, the second report of the Millinery Stabilization Commission⁵ presents data on employment and earnings of workers, and of the business done by and earnings

¹ From the Monthly Labor Review for February 1941.

² Cap and Millinery Department of the United Hatters, Cap and Millinery Workers International Union, and the Joint Board of Locals 24 and 42 of that organization, and the Eastern Women's Headwear Association, Inc., The National Association of Ladies Hatters, Inc., and the Millinery Manufacturers of New Jersey, Inc.

³ The personnel of the Commission in 1940 was as follows: Max Meyer, chairman, Paul F. Brissenden, and Mrs. Richard J. Bernhard.

⁴ Except where otherwise indicated, the New York millinery market means the metropolitan New York-New Jersey area under the jurisdiction of the commission, embracing New York City and northern New Jersey.

⁵ Millinery Stabilization Commission, Inc. Second Report. New York, November 1940.

of manufacturers in 1938 and 1939. A survey of the conditions in the industry in 1937 was made by the United States Women's Bureau⁶ (see vol. II, p. 264).

Employment and Pay Rolls

From 1936, the year in which the Millinery Stabilization Commission was created, to 1939 there was a considerable increase in employment in the industry in the State of New York as compared with employment in the industry as a whole (including New York). This is indicated by the following percentages of annual change in the number of persons employed in the millinery industry in the State of New York and in the United States as a whole:

	<i>New York State</i>	<i>United States</i>
1935 to 1936.....	-3.4	+11.5
1936 to 1937.....	+14.0	+4.0
1937 to 1938.....	+1.0	-2.3
1938 to 1939.....	+15.5	-2.8

The difference in the trends of employment in the State of New York and in the United States from 1936 to 1939 is striking. Since the New York City industry comprises 98 or 99 percent of the industry in the State, and the New York market did more business in 1937 than all other markets combined, the figures for the United States obviously are heavily weighted by the New York data. For the purpose of comparing the trend of employment and pay rolls in the industry in New York State with the rest of the industry the following index numbers are given.

Indexes of employment and pay rolls in millinery manufacture in New York State and in the United States (excluding New York State), 1935 to 1939

Period	Employment		Pay rolls	
	New York State	Rest of United States	New York State	Rest of United States
1935: January.....	100.0	100.0	100.0	100.0
1935.....	99.9	96.5	107.1	95.4
1936.....	96.9	97.2	102.7	95.5
1937.....	108.4	105.8	120.6	108.4
1938.....	110.3	112.4	128.1	117.2
1939.....	138.0	107.9	157.4	111.4

These annual index numbers show the very substantial increase made by the New York market both in employment and pay rolls as compared with the rest of the industry—an increase of 38 percent in employment in 1939 in New York as compared with 8 percent for the rest of the industry, and of 57 percent in pay rolls in New York as contrasted with 11 percent in the rest of the industry.

⁶U. S. Department of Labor. Women's Bureau. Bull. No. 169: Conditions in the Millinery Industry in the United States. Washington, 1939.

The weekly earnings of New York millinery workers are generally higher than those in other markets. In both New York State and the United States as a whole there was an increase in weekly earnings in 1939 over 1936, as can be seen by the following figures:

	<i>New York State</i>	<i>United States</i>
1936-----	\$22. 64	\$20. 46
1937-----	23. 65	21. 25
1938-----	24. 81	21. 43
1939-----	24. 27	21. 91



Activities of the WPA, 1935 to 1940 ¹

Federal emergency work relief was inaugurated in 1933 with the creation of the Federal Civil Works Administration to provide work for employable persons on relief rolls and other unemployed persons. Early in 1934 the Federal civil works program was replaced by a program of work relief carried out through State administrations. The 1935 Federal Emergency Relief Act provided funds "to provide relief, work relief, and to increase employment by providing for useful projects." Under this authority the Works Progress Administration was established in the summer of 1935 for the purpose of furnishing employment on useful public projects for needy unemployed workers. On July 1, 1939, the Administration became part of the newly created Federal Works Agency and was renamed the Work Projects Administration. The WPA program operates in close cooperation with State and local bodies which act as sponsors in the proposal and prosecution of projects and contribute to their financing.

Employment on WPA Projects

WPA projects include not only those operated by the WPA itself but also projects operated by other Federal agencies cooperating with the WPA and financed by WPA funds. Table 1 shows the average number of persons employed each month, from the beginning of the program to December 1940.

Since thousands of workers leave WPA employment each month and other thousands of eligible unemployed persons are added to the rolls, the total number of unemployed persons given employment at some time during the period of operation far exceeds the peak number shown in the table. It has been estimated that the total number of different individuals employed by the WPA at some time between the beginning of the program and June 1940 is 7,800,000.

¹ From the Monthly Labor Review for March 1941, with later information. Data are from WPA publications.

TABLE 1.—Persons employed on WPA projects, United States and Territories, by program and month,¹ August 1935–December 1940

Month	Average number of persons employed			Month	Average number of persons employed		
	Total	Projects operated by WPA	Projects operated by other Federal agencies ²		Total	Projects operated by WPA	Projects operated by other Federal agencies ²
<i>1935</i>				<i>1938</i>			
August	220, 163	220, 163		April	2, 540, 464	2, 540, 464	
September	374, 316	374, 316		May	2, 640, 246	2, 640, 246	
October	705, 169	705, 169		June	2, 743, 025	2, 743, 025	
November	1, 814, 958	1, 814, 958		July	2, 999, 021	2, 914, 121	84, 900
December	2, 667, 190	2, 667, 190		August	3, 125, 244	3, 040, 237	85, 007
<i>1936</i>				September	3, 213, 609	3, 123, 568	90, 041
January	2, 879, 733	2, 879, 733		October	3, 286, 611	3, 195, 567	91, 044
February	3, 019, 098	3, 019, 098		November	3, 334, 592	3, 241, 957	92, 637
March	2, 960, 315	2, 960, 315		December	3, 161, 080	3, 069, 341	91, 739
April	2, 626, 367	2, 626, 367		<i>1939</i>			
May	2, 396, 719	2, 396, 719		January	3, 021, 565	2, 931, 401	90, 194
June	2, 285, 622	2, 285, 622		February	2, 996, 554	2, 907, 356	89, 198
July	2, 245, 328	2, 245, 328		March	3, 009, 110	2, 920, 066	89, 044
August	2, 332, 380	2, 332, 380		April	2, 792, 362	2, 679, 046	113, 316
September	2, 453, 602	2, 453, 602		May	2, 645, 550	2, 509, 875	135, 675
October	2, 552, 574	2, 552, 574		June	2, 578, 041	2, 438, 432	139, 609
November	2, 551, 042	2, 551, 042		July	2, 282, 087	2, 236, 920	45, 167
December	2, 247, 461	2, 247, 461		August	1, 970, 688	1, 909, 886	60, 802
<i>1937</i>				September	1, 726, 996	1, 656, 019	64, 977
January	2, 131, 079	2, 131, 079		October	1, 877, 439	1, 804, 063	73, 376
February	2, 149, 369	2, 149, 369		November	1, 960, 518	1, 882, 754	77, 764
March	2, 129, 475	2, 129, 475		December	2, 123, 431	2, 045, 889	77, 542
April	2, 078, 221	2, 078, 221		<i>1940</i>			
May	2, 021, 579	2, 021, 579		January	2, 216, 314	2, 142, 588	73, 726
June	1, 878, 008	1, 878, 008		February	2, 309, 218	2, 234, 595	74, 623
July	1, 631, 204	1, 631, 204		March	2, 310, 539	2, 235, 359	75, 180
August	1, 510, 894	1, 510, 894		April	2, 144, 040	2, 064, 452	79, 588
September	1, 455, 977	1, 455, 977		May	1, 981, 661	1, 896, 642	85, 019
October	1, 462, 605	1, 462, 605		June	1, 755, 526	1, 669, 572	85, 954
November	1, 503, 720	1, 503, 720		July	1, 655, 477	1, 610, 711	44, 766
December	1, 596, 676	1, 596, 676		August	1, 701, 512	1, 647, 164	54, 348
<i>1938</i>				September	1, 692, 616	1, 636, 824	55, 792
January	1, 803, 102	1, 803, 102		October	1, 766, 451	1, 711, 751	54, 700
February	2, 003, 840	2, 003, 840		November	1, 799, 344	1, 746, 083	53, 261
March	2, 321, 541	2, 321, 541		December	1, 859, 549	1, 808, 595	50, 954

¹ Data represent the average of the weekly employment counts made during the calendar month. Revised through April 11, 1941.

² Employment on WPA projects operated by other Federal agencies and financed by allocation of WPA funds.

WPA Wage Scales

On September 1, 1939, a new schedule of monthly earnings was put into effect in accordance with a requirement of the 1939 ERA act. This schedule fixes monthly earnings for five wage classes corresponding with the various classes of work; namely—unskilled “B”; unskilled “A”; intermediate; skilled; and professional and technical. It applies to all persons engaged on projects financed in whole or in part from funds appropriated by the 1939 act, except as otherwise provided by WPA regulations.

TABLE 2.—Schedule of monthly earnings on WPA projects, effective Sept. 1, 1939

1930 population of largest municipality in county	Wage class				
	Unskilled "B"	Unskilled "A"	Intermediate	Skilled	Professional and technical
Wage region I:					
100,000 and over.....	\$52.00	\$57.20	\$68.90	\$89.70	\$94.90
25,000 to 100,000.....	48.10	52.00	62.40	81.90	84.50
5,000 to 25,000.....	42.90	48.10	57.20	74.10	76.70
Under 5,000.....	39.00	42.90	52.00	67.60	68.90
Wage region II:					
100,000 and over.....	52.00	57.20	68.90	89.70	94.90
25,000 to 100,000.....	48.10	52.00	62.40	81.90	84.50
5,000 to 25,000.....	46.80	50.70	61.10	79.30	81.90
Under 5,000.....	44.20	49.40	59.80	76.70	78.00
Wage region III:					
100,000 and over.....	46.80	50.70	61.10	79.30	81.90
25,000 to 100,000.....	42.90	48.10	57.20	74.10	75.40
5,000 to 25,000.....	36.40	40.30	48.10	62.40	65.00
Under 5,000.....	31.20	35.10	42.90	54.60	55.90
TERRITORIES AND ISLAND POSSESSIONS					
Alaska.....	\$52.00	\$57.20	\$68.90	\$89.70	\$94.90
Puerto Rico.....	19.50	22.10	27.30	35.10	36.40
Virgin Islands.....	19.50	22.10	27.30	35.10	36.40
Hawaii:					
All islands except Oahu.....	36.40	40.30	48.10	62.40	65.00
Island of Oahu.....	42.90	48.10	57.20	74.10	75.40

The schedule applicable to any county is based on the 1930 population of the largest municipality in the county, with the exception that for counties in which the population of the largest municipality was 100,000 or over the schedule applies to the entire area, within the following metropolitan districts, as defined by the 1930 census: Baltimore; Boston; Buffalo-Niagara; Chicago; Cincinnati; Cleveland; Detroit; Kansas City, Kans.-Kansas City, Mo.; Los Angeles; Milwaukee; Minneapolis-St. Paul; New York City-northeastern New Jersey; Philadelphia; Pittsburgh; Providence, R. I.-Fall River-New Bedford, Mass.; St. Louis; San Francisco-Oakland; Scranton-Wilkes Barre; Washington, D. C. The wage regions are as follows:

Wage region I.—Connecticut, Delaware, District of Columbia, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, West Virginia, Wisconsin.

Wage region II.—Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Wage region III.—Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia.

Full-time monthly earnings for project workers during the fiscal year ended June 30, 1940, averaged about \$57.50. Actual earnings of workers employed during the year, taking into account lost time due to outside factors and to illness, etc., averaged about \$54 a month.

The 1939 ERA act also established a standard work month of 130 hours for all project workers, with a maximum of 8 hours a day and 40 hours a week.² The change greatly simplified the scheduling of project operations.

² Under an order effective March 10, 1941, a 48-hour week was authorized on WPA certified national defense construction projects. This order was expected to affect approximately 200,000 workers, and mean increases of from 20 to 60 percent in the average work-week on these projects and a corresponding increase in the weekly earnings of the workers affected.

WPA Expenditures

Up to the end of December 1940 a total of \$8,927,425,000 of WPA funds had been expended for projects operated by the WPA itself and by other Federal agencies. Of this total \$7,969,925,000, or 89 percent, was spent for wages and salaries of project workers and administrative employees. Table 3 shows the total expenditures by these agencies, and the amount of labor, nonlabor, and administrative expenditures, and the miscellaneous expenditures for each fiscal year.

Sponsors' expenditures during the same period amounted to a total of \$2,079,821,000. Sponsors' funds are spent largely for supplies, materials, and equipment.

During the fiscal year ending June 30, 1940, the employment of a worker on a WPA project for a month cost the Federal Government an average of about \$61.50. Of this amount the worker received approximately \$54.25 in wages, \$5 was spent for materials and other nonlabor items, and \$2.25 was for administration. An additional \$21 per worker was spent, on the average, by project sponsors.

TABLE 3.—Amount of WPA funds expended for programs operated by WPA and other Federal agencies up to Dec. 31, 1940

Fiscal year	Amount expended (in thousands)				
	Total	Labor	Nonlabor	Adminis- tration †	Miscella- neous ‡
All WPA projects.....	\$8,927,425	\$7,617,644	\$941,612	\$352,281	\$15,888
1935-36.....	1,258,130	1,040,400	153,167	64,563	-----
1936-37.....	1,818,131	1,472,878	278,409	66,844	-----
1937-38.....	1,427,374	1,231,590	131,976	63,808	-----
1938-39.....	2,230,750	1,944,599	193,639	76,685	15,827
1939-40.....	1,520,106	1,339,194	125,534	55,331	47
July 1-Dec. 31, 1940.....	672,934	588,983	58,887	25,050	14
Projects operated by WPA.....	8,773,365	7,485,317	926,048	346,112	15,888
1935-36.....	1,258,130	1,040,400	153,167	64,563	-----
1936-37.....	1,818,131	1,472,878	278,409	66,844	-----
1937-38.....	1,427,374	1,231,590	131,976	63,808	-----
1938-39.....	2,167,200	1,881,011	186,961	73,401	15,827
1939-40.....	1,461,790	1,289,470	119,102	53,171	47
July 1-Dec. 31, 1940.....	650,740	569,968	56,433	24,325	14
Projects operated by other Federal agencies.....	154,060	132,327	15,564	6,169	-----
1938-39.....	73,550	63,588	6,678	3,284	-----
1939-40.....	58,316	49,724	6,432	2,160	-----
July 1-Dec. 31, 1940.....	22,194	19,015	2,454	725	-----

† Includes NYA administrative expense incurred prior to July 1939 when the WPA and NYA programs were administered jointly.

‡ Includes purchases of surplus clothing for needy persons and aid to self-help and cooperative associations under ERA act of 1938, expenditures for settlement of property-damage claims and tornado relief under ERA act of 1939, and expenditures for settlement of property-damage claims under ERA act, fiscal year 1941.

Physical Accomplishments, 1935 to 1940

By December 31, 1940, more than 100,000 public buildings and 565,000 miles of roads had been built or improved by WPA workers. Also 69,100 new bridges and viaducts had been constructed and some 42,000 others had been rebuilt or improved.

Schools and libraries constituted an important part of the public buildings constructed or improved under WPA projects, 4,790 new schools and 1,793 additions being built, and 29,892 schools being reconstructed or improved.

New recreational facilities for community benefit included 1,493 parks, 2,704 playgrounds, 2,746 athletic fields, approximately 9,000 tennis courts, and 700 swimming pools.

Some of the more important accomplishments under WPA projects completed during the 5-year period of operation from the summer of 1935 through December 31, 1940, are shown in table 4.

TABLE 4.—Selected work accomplishments of the WPA, August 1935 to Dec. 31, 1940

Type of work	Unit	New construction	Reconstruction or improvement	Additions
Highways, roads, and streets	Mile	¹ 565,456	(²)	
Bridges and viaducts	Number	69,094	42,353	
Culverts	do	878,939	104,740	
Public buildings	do	28,387	72,365	3,626
Stadiums, grandstands, and bleachers	do	2,004	731	109
Parks	do	1,493	5,901	158
Playgrounds	do	2,704	8,884	95
Athletic fields	do	2,746	2,313	64
Tennis courts	do	9,080	2,918	
Swimming pools	do	715	307	
Ice-skating areas	do	1,077	81	
Golf courses	Acre	16,170	33,713	
Utility plants	Number	1,999	987	90
Water mains and distribution lines	Mile	12,685	2,992	
Telephone and telegraph lines	do	3,250	1,972	
Electric-power lines	do	2,553	976	
Fish hatcheries	Number	146	147	110
Firebreaks	Mile	5,914	765	
Fire and forest trails	do	5,648	1,605	
Airport landing fields	Number	197	340	57
Airport runways	Linear feet	2,280,000	464,000	
Airport buildings	Number	608	1,183	82
Tunnels	do	835	126	
Docks, wharves, and piers	do	294	293	

¹ Includes also reconstruction or improvement.

² Included in "new construction."

Education and Training Program of the WPA

The WPA carries on a broad education program, including literacy, naturalization, vocational training, and other adult education classes, nursery schools, art and music instruction classes, etc. The program aids State and local governments by making available unemployed teachers to conduct such classes. This education work is integrated with the regular school system, being sponsored by State boards of education and local educational authorities.

A great variety of instruction and training is offered in these classes, depending on the needs and interests of the pupils and the training and experience of the unemployed teachers available. Over 1,000,000 persons were enrolled in the adult education classes and over 1,300 children in the nursery schools in October 1940.

Vacations With Pay

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

905

Vacations With Pay in American Industry ¹

A survey of vacations with pay in American industry was made by the Bureau of Labor Statistics in 1937. No later general survey has been made, but it is known that after 1937 there was a great increase in the number of workers with paid vacations. The larger part of the increase resulted from the incorporation of vacation provisions in collective agreements.

A summary of the results of the 1937 survey is given in the next article and the article following presents a summary of the vacations with pay provisions in collective agreements in 1940.



Survey of Paid Vacations in 1937 ¹

The Bureau of Labor Statistics 1937 survey of paid vacations was conducted by mail questionnaire and canvassed approximately 90,000 firms which contribute to the Bureau monthly reports on volume of employment and pay rolls. They include manufacturing and mining, wholesale and retail trade, public utilities, hotels, insurance, and various other industries, a representative cross section of each industry having been built up over a period of years. The usable replies for all manufacturing industries represented about 80 percent of the plans canvassed, and approximately one-half of all wage earners.

The survey, however, did not cover certain important industries, such as railroads, shipping, banking, and building construction. Vacations with pay are common in the banking field, but are less widespread in the railroad and shipping industries, and are only infrequently granted to the rank and file in building construction.

General Extent of Vacations With Pay

The survey indicated, as earlier surveys had done, that the vast majority of salaried employees received annual vacations with pay, and that a smaller but rapidly increasing proportion of wage earners received paid vacations. With both salaried and wage employees, however, the frequency of such vacations varied greatly between industries. For example, although approximately 95 percent of the salaried workers included in the survey worked in plants which granted paid vacations, more than one-fifth of the establishments covered did not give their salaried workers paid vacations. In some

¹ From the Monthly Labor Review for August and December 1938 and June 1939.

individual industries the proportion was even higher, as scarcely more than one-half of the cigar factories and less than two-thirds of the plants in several of the textile groups, laundries, bottling plants, lumber mills, stone-finishing plants, quarries, and coal mines, gave vacations to their salaried employees.

Among wage earners there were similar differences. Thus, only about 1 percent of the wage earners in coal mining were affected. On the other hand, more than 98 percent were granted paid vacations in two divisions of the chemical industry, namely, the manufacture of druggist's preparations and petroleum refining.

The results of the survey are presented in two broad industrial groupings:

(1) Manufacturing (including laundries) and the extractive industries. Wage earners predominate in the industries.

(2) Business offices, hotels and restaurants, public utilities, and trade. In all of these industries employment is normally continuous, with the result that the great majority of the employees are either on a salaried basis or, if wage earners, with employment so relatively stable as to give them in practice about the same status as salaried workers.

Vacations in Manufacturing, Laundry, and Extractive Industries

For all manufacturing industries, the sample embraced in the Bureau's survey represented in terms of wage earners, an approximate 45 to 50 percent coverage; somewhat less than that was included for mining and crude-petroleum producing. This sample should be adequate to show the prevalence of paid vacations in each of the individual industries. However, in order to determine their approximate extensiveness in manufacturing and mining as a whole, as well as in each subgroup of industries, the employees shown by the survey to have been working under paid-vacation plans in the individual industries were reweighted with relation to the estimated total employment for June 1937. This gave the estimated total number of employees under paid-vacation plans. The results are shown in table 1. This table indicates that more than 3,500,000 wage earners worked under paid-vacation plans in 1937 in the industry groups covered. The estimated number is 39.3 percent of all employed in the manufacturing industries, and 36.7 percent of the total employment in manufacturing, mining, crude-petroleum producing, and laundries and dry-cleaning establishments combined.

TABLE 1.—*Estimated number of wage earners under vacation plans in manufacturing, laundry, and extractive industries, 1937, by industry group*

[Reweighted in accordance with estimated total employment in June 1937]

Industry group	Estimated June 1937 employment	Wage earners under vacation plans	
		Estimated number	Percent of June 1937 employment
All industries covered.....	9,570,100	3,512,227	36.7
Manufacturing.....	8,464,100	3,326,391	39.3
Durable goods.....	4,280,400	2,007,508	46.9
Nondurable goods.....	4,183,700	1,317,866	31.5
Iron and steel and their products, not including machinery.....	871,127	640,278	73.5
Machinery, not including transportation equipment.....	1,144,066	726,482	63.5
Transportation equipment.....	712,264	166,670	23.4
Nonferrous metals and their products.....	321,881	182,185	56.6
Lumber and allied products.....	663,317	51,075	7.7
Stone, clay, and glass products.....	259,222	63,509	24.5
Textiles and their products.....	1,684,800	155,002	9.2
Fabrics.....	1,102,283	120,149	10.9
Wearing apparel.....	518,191	28,500	5.5
Leather and its manufactures.....	303,443	54,620	18.0
Food and kindred products.....	645,380	422,724	65.5
Tobacco manufactures.....	83,178	36,266	43.6
Paper and printing.....	567,746	135,124	23.8
Chemicals and petroleum products.....	410,678	354,826	86.4
Rubber products.....	135,912	98,944	72.8
Laundries and dyeing and cleaning establishments.....	309,500	84,702	27.4
Extractive industries:			
Coal mining.....	529,300	4,854	.9
Metalliferous mining.....	87,500	23,538	26.9
Quarrying and nonmetallic mining.....	52,500	10,653	20.1
Crude-petroleum producing.....	127,200	109,519	86.1

In terms of the proportion of wage earners that worked under paid-vacation plans, the chemical, food, rubber, and machinery industries, which were pioneers in this movement, were still among the leaders in 1937. The crude-petroleum-producing industry, in which vacations became common in 1920-29, was crowding the chemical group (which includes petroleum refineries) for leadership. The iron and steel industry ranked third, having forced rubber into fourth place when so many steel plants adopted paid-vacation plans in 1936-37. The food, machinery, and nonferrous metals groups ranked fifth, sixth, and seventh, respectively, and completed the list of industry groups in which as many as one-half of the wage earners came under paid-vacation plans.

Staggered and Shut-Down Vacation Plans

Paid-vacation plans in the manufacturing and extractive industries may be classified according to whether vacations are staggered to provide for continuous plant operation during the vacation season, or are given simultaneously during a plant shut-down. By far the greater number of vacation plans for wage earners provide for staggering the vacations to insure continuous plant operation.

For the manufacturing industries, fewer than 15 percent of the establishments shut down during the vacation period. These plants employed about one-fourth of the total number of wage earners under vacation plans. The proportion of establishments shutting down for vacations varied considerably from one industry division to another.

The practice was fairly common in tobacco-manufacturing plants (54 percent), textile fabrics group (39 percent), and nonferrous metals and their products group (35 percent). It was infrequently used in the food and kindred products group (3 percent), laundry and dyeing and cleaning establishments (5 percent), paper and printing (6 percent), and chemicals and petroleum products (6 percent). Very few companies in the extractive industries followed the practice of shutting down operations to permit their employees to take vacations.

Uniform Versus Graduated Vacation Plans

Both staggered and shut-down plans usually relate the length of vacation to the length of company service, and in this respect vacations may be further classified as "uniform" and "graduated." The former term refers to plans providing vacations of uniform length after a fixed period of service, while the latter describes plans varying the length of vacation with the increase in length of service up to a fixed maximum.

In the manufacturing industries, uniform vacation plans were used in 69 percent of the plants for wage earners and 73 percent for salaried employees. The number of workers employed in these establishments were, respectively, 53 and 46 percent. The lower percentages of workers are due to the fact that uniform vacation plans were considerably more prevalent in small than in large plants, so that vacations graduated in accordance with length of service affected almost as many workers as did uniform plans. The average number of wage earners in establishments with uniform vacation plans was 266, while plants with graduated plans had an average force of 529. The respective averages for salaried employees were 32 and 103.

For the extractive industries, 68 percent of the companies had uniform vacation plans for wage earners, and 86 percent had such plans for salaried workers. These plans covered 35 and 60 percent of the workers employed in the respective categories.

When vacations are graduated in shut-down plans, the length of shut-down usually corresponds to the maximum vacation, thus resulting in some loss of pay for employees with limited length of service. Uniform and graduated vacation plans occurred with approximately the same frequency in establishments with shut-down and staggered vacations.

Length of Vacation and Service Requirements

Wage earners.—The typical vacation plan for wage earners is a uniform plan which provides a 1-week holiday after 1 year of company service. These provisions were found in the plans of 1,768 plants, approximately 40 percent of all establishment plans in the manufacturing industries. They reached the largest single bloc of wage earners—22 percent of all under vacation plans.

In the manufacturing industries, this "typical" plan comprised 56 percent of the uniform plans. A majority of the other plans of the uniform group also provided the 4-7 days' vacation (in most instances 1 week), given after various service periods. This 1-week uniform vacation was reported by 2,625 establishments, or 86 percent of the 3,059 plants with uniform vacation plans (59 percent of uniform and graduated vacations combined). The only other length of

vacation of any importance among uniform plans was the 2-week period, given by 303 establishments, or 10 percent of the uniform-plan group.

The length-of-service requirement of these uniform plans in the manufacturing industries was 1 and under 2 years in 2,052 establishments, or 67 percent of the total. Very few plants had a service eligibility of less than 6 months, and 7 percent required between 6 months and 1 year. The service requirement in 8 percent of the establishments was between 2 and 3 years, and 10 percent required 3 years and over. Four percent of the plants had no definite requirements with respect to service eligibility.

The most common minimum vacation of graduated plans in the manufacturing industries was the same as in the uniform plans, 1 week being found in 851 plants, or 61 percent of the 1,389 establishments with graduated plans. A 3-day minimum was reported by 16 percent of the establishments, 2 days by 4 percent, 1 day by 14 percent, and one-half day by 2 percent. The minimum service requirement in these establishments was most frequently 1 year, as reported by 627 plants, or 45 percent of the total. Service of less than 1 year earned a minimum vacation in 24 percent of the plans. This low minimum service was common in plans which advanced the vacation on a sliding scale from one-half day or 1 day after a month's service to a maximum of 1 or 2 weeks after a year or more of service. Approximately 30 percent of the plans required 2 years or more of service for the minimum vacation.

Considering both uniform and graduated vacations for wage earners in the 4,448 manufacturing establishments which reported their length of vacation and service requirements, less than 1 year of service earned vacations in 694 plants (16 percent), 1 and under 2 years earned vacations in 2,679 plants (60 percent), 2 and under 5 years in 654 plants (15 percent), and 5 and under 10 years in 255 plants (6 percent), while in 54 establishments (1 percent) the requirement for a vacation of any length was 10 years or more.

The maximum length of vacation most commonly reported for graduated plans in the manufacturing industries was 2 weeks, which was granted by 824 plants, or 59 percent of all graduated plans. One week (4-7 days) was the maximum in 363 establishments (26 percent), 3 weeks in 146 (11 percent), and 4 weeks in 18 plants (1 percent). The maximum service requirements among graduated plans were widely dispersed. About 24 percent reported that the maximum vacation was earned after 5 and under 10 years of service, 30 percent placed it at 10 years or higher, and the remaining plans gave the maximum vacation after less than 5 years, and usually after 1 or 2 years of service.

The classification of wage earners according to length of vacation and service requirements presents a distribution somewhat different from that shown by a similar classification of plants. The preponderance of large plants in the graduated-plan group places in this group almost half of all wage earners in the sample, although fewer than one-third of the wage-earner plans were graduated in type.

In determining eligibility for paid vacations, length of service may be reckoned in various ways. With nearly all wage earners paid only for the time actually worked, and with the intervention

of seasonal lay-offs in many industries, it is important that vacation plans include a very definite explanation of what constitutes "service." The general practice was found to include service prior to lay-offs of a reasonable length and to credit time lost during short lay-offs. The former practice was somewhat more prevalent than the latter.

The allowance of credit for service prior to lay-offs was reported by almost three-fourths of the manufacturing plants, employing a considerably larger proportion of the wage earners. Fewer than 10 percent of the establishments, employing only about 5 percent of the wage earners, required unbroken service to establish eligibility. The remaining 15 percent of the plants either had no lay-offs of importance or did not reply to this inquiry. Approximately 60 percent of the establishments did not deduct time lost during short-time lay-offs. They employed more than 70 percent of the wage earners. On the other hand, nearly one-fifth of the plants, employing as many wage earners, deducted such lost time. The remaining establishments did not reply to this inquiry.

Salaried employees.—Vacation plans for salaried employees are usually more liberal than wage-earner plans. Only about one-third of the establishments which had wage-earner plans applied the same provisions to both salaried employees and wage earners. Plans for salaried workers generally provided a uniform 2-week holiday after 1 year of service, instead of the 1 week allowed by wage-earner plans. These provisions were found in 34 percent of all manufacturing plans studied, or in about 47 percent of the uniform plans alone. Important also in the uniform plans was the 1-week vacation after 1 year of service, as found in 23 percent of all manufacturing plans (31 percent of the uniform plans). The vacation plan of third importance in terms of number of establishments provided graduated vacations of 1 week after 6 months of service, and 2 weeks after 1 year.

Uniform vacations for salaried employees were practically all for either a 1-week or a 2-week period. The 2-week vacation was the most popular, being reported by 57 percent of the manufacturing plants with uniform plans, while the 1-week uniform plan was used in only 39 percent of these establishments. The usual length of service required for both the 1-week and the 2-week vacation was 1 year, reported by 80 percent of the plants. About 7 percent of the uniform plans required only 6 months' service, and 6 percent had no definite service requirement.

For graduated plans, the 1-week minimum and the 2-week maximum vacation for salaried employees were almost universal. One week was the minimum vacation in approximately 80 percent of the graduated plans of the manufacturing establishments. The 2-week maximum vacation was used in about 90 percent of these plans. The variation in service requirement was somewhat wider. Slightly less than half of the plants required 6 months of service for the minimum vacation, 32 percent required 1 year, and 13 percent less than 6 months. About 5 percent made no definite minimum service requirement. The service requirement for earning the maximum vacation in graduated plans was 1 year in 54 percent of the plants and 2 years in 21 percent. Other maxima were lower than 6 months and higher than 20 years.

The extractive industries followed much the same trend as the manufacturing industries, but with greater concentration of companies under the uniform plan which provided a 2-week vacation after 1 year of service.

Amount of Vacation Pay

The average establishment paid for vacation time a wage approximating what the employee would normally earn while at work. For salaried employees, with but few exceptions, this was the regular monthly or weekly salary. For wage earners paid by the hour, it was usually the employee's regular hourly rate times the full-time hours, although about 5 percent of the establishments employing approximately 15 percent of the wage earners based the vacation pay on average earnings. Approximately three-fourths of the plants with piece workers computed the vacation pay on the average earnings over a specified period of time. Most of the remaining establishments with piece workers paid the standard rate for the occupation when not on piece work, which was applied to the full-time hours for the vacation period. A few plants which had paid-vacation plans for wage earners excluded piece workers from the eligible employees.

A wide variety of methods was used in computing an "average wage" for both time and piece workers. One method commonly used was to find an "average week" by averaging both the individual worker's hours and rate of pay for the month immediately preceding the vacation. The same kind of average, but based on an entire year, was also widely used, some plants dividing the individual's previous year's earnings by 52, others by 50, to find the "average week." The individual's standard time rate was applied to average hours in other instances.

In place of the standard rate or the individual average rate of pay, some plants used a guaranteed minimum rate, a departmental average, the minimum union wage, a uniform plant rate, or even an amount equal to the substitute's earnings. The hours used as a basis for the vacation "week," other than full-time hours or individual average hours, were a departmental average, the hours worked during the week immediately preceding the vacation, a uniform arbitrary number of hours not coincident with full-time hours, and occasionally even double time. Some plants with a production bonus system included bonus earnings in vacation pay, and others gave only the base pay. Overtime earnings were often excluded when computing average pay.

Miscellaneous Provisions

Employees were generally required to take advantage of the vacation period. Some plants, employing about 11 percent of all employees, allowed extra vacation pay in lieu of the time off.

Various practices were followed with respect to the time when the employee was given his pay due him for the vacation time. In the manufacturing industries, more than one-half of the plants gave the pay before the worker left for the vacation, about one-fifth gave it after his return to work, and most of the others gave the employee his choice. In the extractive industries, however, the reporting companies were more evenly distributed as to the various practices, such as paying prior to vacation, after the employee's return to work, at the regular pay day, or at the time of the employee's choice.

The summer months are the vacation season for both wage earners and salaried employees in approximately 85 percent of the plants in both the manufacturing and extractive industry groups.

A great many establishments do not require vacation time to be taken in an unbroken period. This leniency was somewhat more common for salaried employees than for wage earners. Almost three-fourths of the salaried employees and more than a third of the wage earners could elect to take their vacations in two or more periods.

Recent Growth of Paid-Vacation Movement

Office workers have been the beneficiaries of company paid-vacation policies for a substantial period of time. An annual vacation for them has become generally accepted. The dates of adoption of paid-vacation plans for salaried workers in the manufacturing and mining industries show that probably three-fourths of the plants inaugurated their plans prior to 1930, the period of greatest extension in most of the industries being between 1920 and 1930. The earlier plans were more or less concentrated in the larger companies. During the post-war decade, however, the practice was adopted by large and small companies alike, until by 1930, less than 20 percent of the salaried workers were employed in plants which did not allow vacations with pay. In 1937, this figure had been reduced to 5 percent. The textile, lumber products, food, tobacco, mining, crude-petroleum-producing, and laundry groups were slower than others in adopting such a policy, and they still have many plants which do not grant vacations to salaried workers. (See table 2.)

Although, as noted, paid vacations for salaried workers have been common for some time, their sphere of application has expanded in recent years to include minor salaried positions in both office and plant which were not covered by many of the earlier plans. It is still, however, not uncommon for plants to be less liberal with respect both to length of vacation and to qualifications as to length of service for the minor positions, particularly for the salaried positions in the plant as distinguished from the office.

Paid vacations for wage earners are a development of the twentieth century. A few American companies were pioneers in this movement prior to that time, first giving vacations to their older employees and later extending the practice to all employees. The Bureau's survey disclosed 32 plants of 24 companies which had such early plans, the majority being in the food and chemical industries, and 44 other plants, likewise concentrated in the chemical and food industries, whose plans began in the first decade of the century.

For the decade 1910-19, the Bureau sample shows 240 manufacturing plants which adopted this policy, as well as a few companies in the mining industries. Once more the chemical and food industries were in the foreground. Noticeable also was the gain in the machinery group, particularly in electrical machinery, and among the larger rubber companies. During this decade, vacations with pay were also adopted by 3 mining, 7 petroleum, and 8 laundry companies.

The impetus given by the World War to the interest in the subject of labor relations is reflected in the extension of wage-earner paid-vacation plans during 1920-29, when they appeared in practically all of the major industrial groups. Almost twice as many plans

were adopted in that decade as had existed previously. Large gains were again made in electrical machinery, food, and chemicals, and plans became fairly numerous in printing, rubber products, crude-petroleum producing, and laundries and dry-cleaning establishments. It was also during this decade that vacation provisions began to appear in union agreements.

The movement toward paid vacations for wage earners received a temporary setback by the prolonged depression of 1930-34. Some plans were suspended,² but a significant number of plants (365 shown in this survey) adopted new plans during that period. Since 1934, however, the number of plants and wage earners working under paid-vacation plans has tripled. During 1936 and 1937 annual vacations with pay were extended to an estimated 2,000,000 wage earners in manufacturing and mining. Approximately 70 percent of the plants which reported paid-vacation plans in the survey had inaugurated these plans during 1930-37, and about 40 percent gave vacations for the first time in 1937.

Table 2 shows the distribution of plants and employees in the sample, by industrial group and class of employee, according to the period during which paid vacations were adopted. This sample is considerably smaller than the entire coverage in the survey, but it is fairly adequate for the purpose.

TABLE 2.—*Distribution of plants and employees by period in which vacation plan was first adopted*¹

Period of adoption	Manufacturing		Laundries and dyeing and cleaning establishments		Mining and quarrying		Crude-petroleum producing	
	Plants	Employees	Plants	Employees	Companies ²	Employees	Companies ²	Employees
<i>Salaried workers</i>								
All periods.....	9,080	485,968	297	5,910	344	11,546	102	11,332
Prior to 1900.....	386	72,691	14	199	15	1,487	—	—
1900-1909.....	648	40,676	20	245	27	1,744	3	836
1910-19.....	1,477	100,207	24	301	57	1,865	13	2,844
1920-29.....	2,288	79,969	91	2,230	120	1,932	32	3,367
1930-37.....	1,776	42,884	103	1,598	55	1,021	34	2,595
1935.....	253	6,416	11	188	8	85	3	24
1936.....	213	4,728	16	297	5	148	6	63
1937.....	337	8,460	42	542	11	143	3	172
Indefinite ³	2,505	149,541	55	1,337	77	3,497	22	1,690
<i>Wage earners</i>								
All periods.....	3,771	1,381,992	149	10,695	54	10,986	72	20,460
Prior to 1900.....	32	18,509	—	—	—	—	—	—
1900-1909.....	44	6,415	2	123	—	—	1	500
1910-19.....	240	136,352	8	820	3	708	7	3,065
1920-29.....	567	210,462	22	1,044	6	869	17	8,840
1930-37.....	2,637	985,933	104	7,774	44	9,016	37	6,722
1935.....	192	60,090	6	1,040	1	7	7	669
1936.....	589	413,008	14	734	14	4,590	7	225
1937.....	1,491	442,148	70	5,293	23	3,794	7	1,185
Indefinite ³	251	24,321	13	934	3	393	10	1,333

¹ This table shows some bias in favor of the later years, since it does not take into account the length of life of the company unit. See also footnote 3.

² A plant count in the mining, quarrying, and crude-petroleum-producing industries was not practicable and the number of companies only was used.

³ This includes such reports as "For many years," "Since the organization of the company," and similar answers which indicate a plan of long standing.

² National Industrial Conference Board. Studies No. 215: Vacations With Pay for Wage Earners, p. 9.

Vacations in Business Offices, Hotels, and Restaurants, Public Utilities, and Trade

Reports for the industries covered in this section were received from 31,189 companies, and the total number of employees was 2,393,290.

Although single-establishment companies predominate in some industries, multi-unit companies are an important factor in others. For companies with more than one establishment, the same general paid-vacation plan usually applies to all units, although vacation practices sometimes vary from one establishment to another. In view of the fact that most multi-unit companies with uniform vacation plans did not report the data separately by establishment, it is impossible to present any count other than a number of companies covered by paid-vacation plans.

As already noted, practically all these industries have relatively steady employment throughout the year, and their employees are largely salaried workers, or, if wage earners, are on a relatively stable employment basis, which gives them a status similar to that of salaried employees. For this reason, no distinction was made in the analysis of these industries between wage earners and salaried workers.

The number of companies and employees included in the study and the number and percent of employees working under paid-vacation plans, in the various industries, are shown in table 3.

Of the 5 main industry groups presented, the highest percentage of employees found working under paid-vacation plans appeared in brokerage, insurance, and miscellaneous offices. Practically all of the companies included in this group had such plans. Next in prevalence of paid vacations were the public-utility industries. In that group, paid vacations were almost universal in the telephone and telegraph and electric light and power and manufactured gas industries, but were much less common in the operation, maintenance, and repair of electric railroads and motorbuses, where only 69 percent of the employees were under paid-vacation plans.

Retail trade as a whole had 88 percent of the employees under paid-vacation plans, but the percentage varied considerably from one division of the industry to another. For example, almost without exception throughout all the branches of the general merchandise division of the industry the vacation policy had been adopted. Paid-vacation plans were also extensive in drug and cigar stores, clothing and furniture specialty stores, filling stations, tire and battery shops, chain groceries, confectioneries, retail bakeries, and other food establishments. By contrast, they were least frequently provided for employees of garages, automobile dealers' establishments, building-supply and hardware establishments, and independent groceries, where the number of workers affected varied from about 40 to 60 percent. In wholesale trade, the number of employees working under paid-vacation plans amounted to 83 percent.

Of the 5 main industry groups, hotels and restaurants showed the lowest percentage (64 percent) of employees under paid-vacation plans. About 68 percent of the employees in hotels and 57 percent in restaurants worked under such plans.

TABLE 3.—Extent of vacations with pay in selected nonmanufacturing industries, 1937

Industry group	Coverage		Employees working under paid-vacation plans ¹	
	Number of companies	Number of employees	Number	Percent
Brokerage, insurance, and miscellaneous offices.....	573	150,980	150,056	99.4
Brokerage.....	180	11,938	11,819	99.0
Insurance.....	351	133,525	132,723	99.4
Miscellaneous.....	42	5,517	5,514	99.9
Hotels and restaurants.....	3,185	189,109	120,352	63.6
Hotels.....	1,540	119,630	80,804	67.5
Restaurants.....	1,645	69,479	39,548	56.9
Public utilities.....	² 656	693,074	630,496	91.0
Telephone and telegraph.....	87	261,764	261,172	99.8
Electric light and power and manufactured gas.....	386	284,725	268,017	94.1
Electric railroad and motorbus operation, including maintenance and repair.....	212	146,585	101,307	69.1
Retail trade.....	17,886	998,400	880,529	88.2
General merchandise.....	1,285	534,105	525,025	98.3
Department stores.....	577	310,078	303,683	97.9
Variety stores.....	87	142,655	142,438	99.8
Dry-goods and general-merchandise stores.....	624	72,353	69,885	96.6
Mail-order houses.....	7	9,019	9,019	100.0
Other than general merchandise.....	² 16,613	464,295	355,504	76.6
Clothing and furniture specialty stores.....	4,354	119,424	104,718	87.7
Retail food stores.....	3,016	128,150	100,786	78.6
Chain groceries.....	178	61,523	51,928	84.4
Independent groceries.....	1,770	19,718	11,723	59.5
Confectioneries, retail bakeries, and other establishments.....	1,070	46,909	37,135	79.2
Retail automotive establishments.....	3,324	82,458	47,904	58.1
Automobile dealers.....	2,065	52,990	24,839	46.9
Garages.....	506	5,355	2,237	41.8
Filling stations.....	432	14,630	12,644	86.4
Tire and battery shops and miscellaneous establishments.....	324	9,483	8,184	86.3
Building supplies, hardware, etc., establishments.....	3,051	51,134	27,591	54.0
Drug stores and cigar stores.....	1,280	44,768	41,562	92.8
Other retail stores.....	1,594	38,360	32,943	85.9
Wholesale trade.....	8,999	361,727	299,975	82.9

¹ The figures here are exclusive of employees who did not come within the scope of the plan for the establishment in which they were working. However, the figures do include all employees of any group eligible to receive paid vacations, regardless of whether or not their length of service made them eligible during the period surveyed.

² This figure excludes duplications due to the fact that certain companies have establishments in more than one of the industries covered.

An examination of the above figures indicates that paid-vacation plans in the industries referred to are relatively more extensive in branches dominated by multi-unit organizations. In such companies, the practice is generally to have a vacation plan applying to all units of the organization. Paid-vacation plans are also relatively more prevalent in branches consisting mainly of large establishments, such as department stores. On the other hand, paid vacations are relatively less prevalent in branches that are composed of a large number of independent companies, such as hotels, restaurants, independent groceries, garages, automobile dealers' establishments, and building supplies and hardware establishments.

Types of Paid Vacations

Because the nature of the industries covered calls for continuous operation of the establishment throughout the year, practically all of the plans provide for staggered vacations rather than those all occurring at the same time and resulting in a shut-down of the plant.

The paid-vacation plans have been classified according to whether they provide for vacations of uniform length after a fixed period of service, or whether they graduate the period of leave in accordance with length of service.

Of the 5 main industry groups, the plans were found to be primarily of the uniform type only in hotels and restaurants and the wholesale trade. Of the total number of employees affected by paid-vacation schemes, 65 percent in each of the latter industries were under uniform plans. Vacations on the graduated basis predominated in brokerage, insurance, and miscellaneous offices, public utilities, and retail trade as a whole, the proportion of employees out of the total affected by paid vacations being, respectively, 83, 74, and 68 percent. (See table 4.)

TABLE 4.—Number and percent of employees covered by uniform and graduated paid-vacation plans, 1937

Industry group	Number of employees ¹			Percent		
	Total	Uniform plans	Graduated plans	Total	Uniform plans	Graduated plans
Brokerage, insurance, and miscellaneous offices.....	83,654	13,951	69,703	100.0	16.7	83.3
Hotels and restaurants.....	75,943	49,059	26,884	100.0	64.6	35.4
Public utilities.....	503,499	129,531	373,968	100.0	25.7	74.3
Retail trade.....	715,669	229,144	486,525	100.0	32.0	68.0
General merchandise and clothing and furniture specialty stores ²	527,801	110,075	417,726	100.0	20.9	79.1
Retail food stores.....	77,429	58,983	18,446	100.0	76.2	23.8
Retail automotive establishments.....	32,660	20,871	11,789	100.0	63.9	36.1
Building supplies, hardware, etc., establishments.....	19,553	14,279	5,274	100.0	73.0	27.0
Drug stores and cigar stores.....	34,105	11,378	22,727	100.0	33.4	66.6
Other retail stores.....	24,121	13,558	10,563	100.0	56.2	43.8
Wholesale trade.....	213,427	138,787	74,640	100.0	65.0	35.0

¹ The coverage in this table is less than the coverage shown in table 3, because a great many companies did not report details of their vacation plans.

² General merchandise and clothing and furniture specialty stores are combined in this table because of the similarity of practices in these 2 groups.

Graduated vacations predominated in retail trade as a whole, because of the influence of the largest division of the group, namely, general merchandise and clothing and furniture specialty stores, where such vacations were general. The graduated plan was also used extensively in drug and cigar stores. The uniform vacation plan prevailed in the remaining branches of the retail-trade industry, namely, retail food stores, building-supply and hardware establishments, retail automotive establishments, and other retail stores.

Since the graduated vacation plan as a whole is more liberal than the uniform plan, it is interesting to note that the graduated plan prevails largely in industries dominated mainly by large companies. Examples of the latter are insurance corporations, public-utility companies, department stores, and drug- and cigar-store chains.

Length of Paid Vacations, and Service Requirements ³

Brokerage, insurance, and miscellaneous offices.—In brokerage, insurance, and miscellaneous offices, where nearly all employees are

³ For detailed tables showing, for each of the industries, the distribution of employees covered by paid-vacation plans according to the length of leave granted and the period of service required to earn such vacation, see Serial No. R. 903 of the Bureau.

clerical workers, the 2-week vacation predominated. As heretofore stated, the majority of the plans in this group were on a graduated basis. The typical graduated plan offered a vacation of 1 week after 3 months' service and of 2 weeks after 6 months' service, although a significant number of employees were required to wait 6 months for the 1-week and 1 year for the 2-week vacation. A smaller group received a minimum vacation of 2 weeks, usually after 6 months of service, and a maximum vacation of 3 weeks after service of 5 years and over. The 4-week vacation was less frequent and was generally granted only after many years of service.

The 2-week vacation was also the predominant uniform plan in this industry group, being given usually after service varying from 6 months to 1 year.

Hotels and restaurants.—The large proportion of wage earners in hotels and restaurants was reflected in the characteristics of vacation plans for this group. As stated previously, the uniform plan predominated here, and in the majority of cases carried provisions for only a 1-week vacation. The usual service requirement was 1 year. The only other uniform plans of any importance in hotels and restaurants provided for a 1-week vacation after 6 months' service or a 2-week vacation after 1 year of service.

Among the graduated plans, the predominant minimum vacation was also 1 week. The usual minimum service requirement was 1 year, although a significant number of employees were given vacations after only 6 months of service. The prevailing maximum vacation was 2 weeks. There was wide variation with respect to the maximum service requirement. The employees serving 6 months for the minimum vacation served 1 year for the maximum vacation. Of the employees required to serve 1 year for the minimum vacation, about 40 percent received the maximum vacation after 2 years of service and the remaining ones only after service of 3 years or more.

Public utilities.—The graduated plan often used by large corporations prevailed in public utilities. As in the majority of graduated plans, the minimum vacation here was 1 week, but a wider variation in the minimum service requirement was found in this group as compared with other groups. Although 1 year was the minimum for the largest number of employees, the 6-month waiting period was also frequent, and a fairly large number of employees received the minimum vacation after only 1 to 3 months of service.

Two weeks was the maximum for 56 percent of the employees under graduated plans in public utilities, but practically all of the remaining employees received a maximum of 3 weeks. The 3-week vacation, however, was not given until after 10 years or more of service with the company. On the other hand, the 2-week maximum was for the most part granted after a maximum service of from 6 months to 2 years.

The employees receiving uniform vacations in public utilities may be roughly divided into 2 groups, approximately one-half receiving a 1-week vacation and the other half a 2-week vacation. For both groups, however, the usual service requirement was 1 year.

Retail trade.—In the general merchandise and clothing and furniture stores, where the graduated plan predominated, the usual length of vacation was a minimum of 1 week and a maximum of 2 weeks.

Under the graduated plans the 1-week minimum was received by 40 percent of the total employees after 1 year of service, by 15 percent after 6 months of service, and by 20 percent after service of from 1 to 3 months. The 2-week maximum was earned by 56 percent of the total employees after 2 years of service and by 24 percent after 1 year of service. Maximum vacations of 3 and 4 weeks were granted to a limited extent, but usually after service of 10 years or more. The predominant uniform vacation plan provided a 1-week vacation after 1 year of service.

Graduated plans also prevailed in drug and cigar stores. The minimum vacation for more than one-half of the employees under graduated plans was only 3 days, and for the remainder 1 week, but the usual minimum service requirement in both instances was only 6 months. The maximum vacation for practically all of these employees was 2 weeks, which was earned by more than four-fifths of the total under graduated plans after only 1 year of service. Uniform plans provided a 1-week vacation after 1 year of service in the majority of instances.

As mentioned before, the uniform vacation plan predominated in retail food stores, automotive establishments, and building-supply and hardware establishments. A large proportion of the employees under uniform plans in each division were granted vacations of 2 weeks after 1 year of service. In automotive establishments, 69 percent of the employees received a 1-week and 28 percent a 2-week vacation; for retail food stores, 66 percent had a 1-week and 34 percent a 2-week vacation; and for building-supply and hardware establishments, the employees were equally divided between 1- and 2-week vacations. In each case, 1 year was the usual length of service required to qualify for the vacation.

The graduated plans for these 3 divisions provided the usual 1-week minimum and 2-week maximum vacation, with a usual minimum service requirement of from 6 months to 1 year. The maximum service requirement varied widely.

Wholesale trade.—The distribution of employees in wholesale trade according to length of vacation and service requirements assumed much the same pattern as the distribution for each of the divisions in retail trade in which the uniform vacation plan predominated. Almost two-thirds of the employees with paid vacations in wholesale trade worked under uniform plans, and of these slightly more than one-half received a 1-week vacation and most of the others 2 weeks. One year was the usual service requirement for both the 1- and 2-week vacation periods.

The distribution of employees working under graduated plans in wholesale trade was very much the same as for other industries, the minimum vacation being 1 week and the maximum 2 weeks, with the minimum service requirement 6 months or 1 year and the maximum service requirement 1 or 2 years. This industry group, however, recognized long service to a greater extent than some of the other industry groups, with 23 percent of its employees having a maximum vacation of 3 weeks or more, which was earned for the most part after 10 years of service.

Vacation Provisions in Union Agreements ¹

An estimated two million union members, or approximately 25 percent of all organized wage earners in the United States were receiving annual vacations with pay under collective agreements in effect in the latter part of 1940. In the manufacturing industries, about one-third of the union members received paid vacations through their union agreements. In transportation, almost 40 percent of the union bus, city passenger, and maritime workers received vacations, although almost none of the railroad employees were covered by such vacation provisions. Vacations with pay are almost entirely absent in coal and metal mining, as well as building construction agreements. In the professional and clerical occupations about 45 percent of the union members have paid vacations in their agreements.

The majority of these workers receive a maximum of 1 week's vacation with pay after 1 year's service with the company. Approximately one-half million union members work under agreements which provide a 2-week maximum for all or a part of the working force. However, since 2-week vacations are often restricted to employees with service records of longer than 1 year, it is impossible to estimate the number actually receiving 2-week vacations with pay.

The inclusion of paid-vacation plans has become general in the union agreements in many industries. Some of these industries, including iron and steel, rubber, cement, rayon yarn, and aluminum manufacture, are well organized and the vacation provisions in the written agreements, therefore, are representative of conditions throughout the industry. In some other trades and industries which are less well organized, while paid vacations are included in almost all of the existing union agreements, such provisions are not necessarily representative of conditions in the industry as a whole. These include office, technical, and professional employees, wholesale, and retail trade, telegraph and radio, meat packing, petroleum production and refining, light and power, coke and manufactured gas, chemicals, newspaper office employees, and building maintenance workers.

Paid vacations in the rubber, petroleum, and steel industries in many cases antedate the establishment of collective-bargaining relations. Paid vacations in the steel industry, for example, were adopted in 1936 by the majority of steel companies just before the organizing drive of the Steel Workers Organizing Committee, which brought most of the industry under written union agreements. Since the inclusion of vacations in the first agreement in 1937, union efforts have been directed toward the liberalization and extension of vacation benefits.

Although the trend toward annual paid vacations for industrial wage earners is of comparatively recent origin, many salaried clerical, technical, and professional employees have enjoyed vacations with pay for many years. Union agreements covering "white-collar" workers therefore contain a higher proportion of vacation plans than the average industrial agreement. These include newspaper office

¹ From Monthly Labor Review, November 1940 (p. 1070).

employees, telegraph, and radio operators, office workers, and employees in retail and wholesale establishments.

In contrast to the above-mentioned industries, there are significant sections of American industry which are marked by an almost complete absence of paid vacations in union agreements. In some cases these industries are highly organized and have a long history of collective bargaining. In this latter category are clothing manufacture, railroad transportation, building construction, coal mining, longshoring, and the entertainment occupations, including actors and musicians. With the exception of railroad transportation, these occupations and industries are marked by seasonal lay-offs and intermittent work. Further, in some of these industries workers are employed by a number of different employers during the year.

The absence of vacations in these industries is partially due to the contention that cumulative fatigue, which may justify vacations for year-round workers, is not a factor in casual or intermittent employment, which by the nature of the work provides opportunity for rest and relaxation. However, a recent arbitration decision granting paid vacations to several hundred ship clerks in San Francisco who are employed on a casual basis by numbers of different employers, refused to recognize this contention as a valid basis for denial of vacation rights.²

The following table indicates the extent of vacations with pay provisions in union agreements in the various trades and industries. It should be noted that those industries in which there is only a negligible amount of collective bargaining have been omitted from the table.

Prevalence of paid-vacation provisions in union agreements, 1940

[Industries in which there is only a negligible amount of collective bargaining are omitted]

Proportion of union agreements with annual paid vacations, by trades and industries			
Large proportion	About half	Moderate proportion	Almost entirely without
Aluminum (refining and fabrication). Building maintenance (residential and office buildings). ¹ Cement manufacture. Chemicals (paints, varnish, fertilizer, cosmetics, perfume, soap, explosives, drugs, and industrial chemicals). ¹ Coke and manufactured gas. Iron and steel. Light and power.	Aircraft manufacture. ¹ Baking (bread, crackers and cake—includes route salesmen). Breweries. Bus transport, intercity. Butchers (employed in retail trade). City passenger transport (street railway, elevated, bus, and subway). Cleaning and dyeing. Electrical equipment (includes radios).	Automobiles and parts. Automobile sales and service (includes gasoline stations). ¹ Brick and clay products (includes pottery and chinaware). ³ Canning (vegetable, fruit, fish, etc.). Cigarettes. Cotton textiles and small wares. Dyeing and finishing textiles (excluding hosiery).	Barbers. Building construction. Cigars. Clothing, men's (outerwear and underwear). Clothing, women's (outerwear and underwear). Coal mining. Fishing. Furs. Glass (window, plate, and other flat glass). Glassware. Hats and millinery.

See footnotes at end of table.

² In the matter of a controversy between the Ship Clerks' Union, Local 1-34, I. L. W. U., complainant, and the Waterfront Employers' Association of San Francisco, respondent. Final award dated June 25, 1940. Chairman Wayne L. Morse stated: "The fact that a clerk may take time off at his own expense does not provide him with a true vacation privilege . . . It isn't much of a vacation for a clerk to be out of a job intermittently and during that time be under the economic pressure of maintaining contacts each day with the hiring hall in the hope that he may be dispatched to another job." The chairman further suggested that the problem of diversity of employment might be solved through establishment of a vacation fund, administered by the local Joint Labor Relations Committee, which would make assessments on the various employers similar to present assessments for the cost of the hiring hall.

Prevalence of paid-vacation provisions in union agreements, 1940—Continued

Proportion of union agreements with annual paid vacations, by trades and industries—Continued

Large proportion	About half	Moderate proportion	Almost entirely without
Meat packing. Newspaper office employees (editorial, circulation, and advertising). Office, technical, and professional employees (excludes theater, newspaper and railroad employees). ¹ Petroleum (crude production and refining). Rayon yarn. Retail trade (department, speciality and grocery stores—sales, delivery and office personnel). ¹ Rubber (tires, inner tubes, boots, shoes, and other rubber goods). Sugar refining, cane and beet. ¹ Telegraph. Wholesale trade. ¹	Flour and other grain products. Jewelry and silverware. Laundries. ¹ Machinery and parts. Maritime transport (licensed and unlicensed personnel). ² Railroad clerical service. Shipbuilding and repairs (private shipyards).	Furniture (wood, upholstered, and metal). Hotels and restaurants. Metal mining, nonferrous. Milk and other dairy products (includes route salesmen). Printing and publishing, newspaper and book and job. Pulp and paper products. Silk and rayon textiles. Tailors (merchant tailors employed in retail trade). Trucking, city and intercity (excludes salesmen). Woolen and worsted textiles.	Hosiery. Leather (tanning and leather products other than shoes). Longshore. Lumber and timber products (logging, saw-mills, planing mills, and products other than furniture, pulp and paper, turpentine and rosin). Motion picture production (except actors). Musicians. Performers (legitimate stage, vaudeville, burlesque, grand opera, motion picture, and radio performers). Quarrying. ¹ Railroad shops and maintenance. Railroad train and engine service. Shoes. Stoves. Taxicab. Theater-maintenance employees (picture machine operators, ushers, stage hands, box-office employees). Upholstering and floor-covering (employees in retail trade).

¹ The extent of collective bargaining in this industry is small.² Almost all agreements covering licensed officers contain annual paid vacations.³ Only pottery workers receive vacations with pay in their union agreements.

Vacation Pay

The great majority of union agreements which grant paid vacations merely specify that the employee is to receive his regular rate of pay for the vacation period. Some agreements, however, in an effort to eliminate future ambiguities or conflicts in interpretation of so general a phrase, outline more detailed plans for determining vacation pay. Piece workers, in particular, require more exact means of calculating vacation pay; usually an average is taken of the employee's weekly earnings over a specified period. Workers paid by the hour sometimes work at different rates during the same week, in which case the "predominating" rate is often used. Employees temporarily assigned to lower-paid work are thus assured that this lower rate shall not be made the basis of their vacation pay.

Under many agreements, overtime or other extra earnings are excluded from the calculation of vacation pay. Some agreements which provide certain perquisites such as meals or lodging in addition to cash wages require that the cash value of such items be included in the base pay for vacation purposes. For example, an agreement covering restaurant workers provides that a \$3 weekly meal allowance must be included in the employee's basic rate upon which vacation pay is computed.

In only a few agreements does the vacation pay differ from the employees' regular pay or its computed equivalent. In a limited number of agreements a flat amount is given to each employee regardless of salary level. This amount may be more or less than the regular rate of pay for those receiving it. In a few cases a flat payment is added to the employees' regular rate of pay, thus insuring extra pay for the vacation period.

Cash payments in lieu of vacations are prohibited in a large number of agreements. This provision insures to workers the time off for rest and recreation which a vacation affords, and which is the basic reason for the demand for vacation rights in union agreements. A few agreements, however, permit cash payments in lieu of vacations. Such provisions are usually found only in seasonal industries where there are periodic lay-offs.

The time of the vacation payment is taken up in some agreements. Many of these specify that the vacation pay must be given in advance of the actual vacation.

Timing of Vacation Period

About half of the agreements set the general time during which vacations may be taken. In almost all of these the summer months are fixed as the vacation period. During the specified months, employees are usually given the choice of vacation periods on the basis of seniority, although the employer may veto an individual choice in the interest of efficient operation of the establishment. In some agreements a schedule of vacations is required to be posted at the beginning of the season.

When plants shut down for the vacation period, some agreements provide for joint negotiation between the union and the employer regarding the exact time of the shut-down. A frequent requirement for plant shut-down vacations is that notice be given to all employees sufficiently in advance to enable them to complete their vacation plans.

The splitting up of vacation time is prohibited in many agreements. Split vacations are customarily allowed only in agreements providing more than 1-week vacations; for example, senior employees in a few large department stores are granted 1-week winter vacations in addition to summer vacations under their union agreements.



Vacations With Pay in Southern California ¹

In order to discover vacation experience in one of the youngest, but most important industrial areas of the country, two different questionnaires were mailed during April and May 1940 to more than 400 trade-unions in Los Angeles County and to over 1,200 business establishments with plants or offices in the same county.

¹ Abstract of an article by Everett D. Hawkins and Victor V. Veysey, California Institute of Technology, in the Monthly Labor Review for September 1940. It is a summary of a report prepared by Victor V. Veysey under the direction of Everett D. Hawkins (California Institute of Technology, Industrial Relations Section, Bulletin No. 2: Vacations with Pay in Los Angeles County, Pasadena, 1940).

At the close of the tabulations (in June 1940), replies had been received covering 143 local trade-unions and 432 companies. The 206,750 employees reported by these companies and the great numbers of additional workers covered by the union replies represented a substantial segment of the working population of Los Angeles County, excluding those engaged in agriculture and domestic service. The returns from the two sets of questionnaires tended to supplement rather than duplicate each other. Only 62 firms reported plans for wage earners which were written into union agreements.

Company Vacation Plans

Practically all of the companies included in this study grant vacations with pay and most of them do so on a formal, permanent basis. Of the 432 responding firms, 425 stated that they would give vacations to at least some of their employees in 1940. Formal, planned vacation programs were reported by 311 companies, or 72 percent of the replying firms, and 57, or 13 percent of the total, indicated that vacations were granted under very informal arrangements. Replies from 48 companies stated that it was the custom to announce vacations anew each year, whereas 260 companies established their plan on a more permanent basis, making adjustments only at irregular intervals.

Of the 206,750 workers employed by the reporting companies in 1939, almost one-half, or 101,098 employees, were definitely eligible for some form of vacation during 1939. The exclusion of certain grades of employees and the use of service requirements limited the number of those qualified for vacations. At least 83 percent of the employees eligible for vacation actually took them. In addition, 125 employees scattered through several industries and companies continued to work and received extra pay in lieu of vacations during 1939. In no case was this practice a general provision of the vacation policy; it was a special arrangement granted to a small number of employees.

More than 100 Los Angeles firms had adopted vacation plans for the first time since 1930; 184 reported definite starting dates before 1930. Few new vacation plans were established during the worst years of the depression. From 1934 to the middle of 1940, 94 companies introduced some sort of vacation policy. At least 8 companies were establishing a vacation plan for the first time in 1940. Comments on changes made after 1930 indicated that 39 companies were forced to suspend their plans during 1932 or 1933, and 5 other firms made their policies less liberal during those years. Only a few of these companies failed to restore their original, or more liberal, vacation provisions after 1934 or 1935. In addition, 64 companies had supplemented their established plans since 1934 by granting vacations to wage earners for the first time. Only 2 firms abolished vacations for wage earners after 1933, and 1 company eliminated its vacation plan entirely in 1937.

The most common vacation provision for both wage earners and salaried employees was one graduated in two levels: 1 week for those with the minimum service requirement, and 2 weeks for those with longer service. A uniform length of 2 weeks was the next most common period for salaried employees. Provision of 1 week for all salaried employees was third. For wage earners uniform periods of 1 week were more frequently reported than 2 weeks.

TABLE 1.—*Types of vacation plans used for salaried employees and wage earners by Los Angeles firms, 1940*

Type of plan	Plans providing for salaried employees		Plans providing for wage earners	
	Number	Percent	Number	Percent
All types.....	425	100	262	100
Uniform types.....	203	48	128	49
Graduated, 2 levels.....	187	44	113	43
Graduated, more than 2 levels.....	35	8	21	8

The most usual minimum service requirement for both groups of employees was 1 year. Although the usual requirements tended to coincide for both groups, many Los Angeles firms (1) provided longer service requirements for wage earners than for salaried employees, and (2) granted shorter vacations to wage earners than to salaried employees. In fact, the average cost of vacations with pay in 1939 for salaried employees, as reported by 240 companies, was 3.48 percent of the annual pay roll of that group. The average for wage earners in 120 firms was 2.72 percent.

Vacations were most usually granted in the months of June, July, and August, but 66 companies allowed vacations through the entire year. A large majority of firms stated that they would permit winter vacations. Even in a temperate climate, these summer months are looked upon as most suitable, probably because they coincide with the public-school vacations.

All but 33 of the Los Angeles firms reported that they used a staggered vacation plan in which only a small percentage of the employees in any department were absent at one time, rather than a shut-down plan in which one or more departments were completely closed down for a designated period while all regular employees had a vacation.

Trade-Union Vacation Plans

Out of 143 replies from local unions in Los Angeles County, 111 locals affiliated with 46 national labor unions reported that their parent organizations favored the principle of vacation with pay; 103 said that members in their unions were receiving vacations; and 64 of them pointed to 580 agreements including provisions for vacations with pay. Other unions were in process of negotiating for vacations when they answered the questionnaire, and two obtained vacation provisions in June 1940. Nearly 90 unions had discussed vacations in the process of collective bargaining. Of the 103 unions which stated that members in their locals received vacations with pay, over one-half (53) reported that "all" of their members were given paid vacations; 14 stated that "most" of their members were granted vacations; 13, "some"; and 23, only a few.

TABLE 2.—*Distribution of trade-union replies on vacations with pay, by industries, in Los Angeles County, 1940*

Industry ¹	Number of local unions			
	Replied to questionnaire	National union favors vacations	Members receive vacations	Agreements include vacations
All industries	143	111	103	64
Agriculture	2	0	0	0
Manufacturing, metal and machinery	21	20	19	15
Manufacturing, food and beverages	11	10	10	10
Printing	9	8	4	2
Other manufacturing	8	7	5	3
Construction	27	12	14	3
Transportation, rail	5	5	3	1
Transportation, road	7	7	6	6
Transportation, water	6	5	5	5
Public utilities	5	5	5	2
Trade, retail and wholesale	4	4	4	4
Service, professional	6	4	5	2
Service, government	12	12	12	2
Service, personal	13	8	7	6
Not stated	7	4	4	3

¹ Each union is placed in only one industrial classification, although some of its members may actually be engaged in several industries. The classification follows that used by Carroll R. Daugherty in his book, *Labor Problems in American Industry*.

Agreements for vacations with pay have been obtained, as a rule, from those firms which employ a regular force of workers. In the building industry, where men are hired for the job only, vacations are not asked for by the unions, because, as one member put it, "We have too many vacations now. The only trouble is that they are without pay." On the other hand, where jobs are relatively steady, the principle of vacations with pay flourishes.

The most frequent length of vacation in these union plans was 1 week, and the most usual service requirement was 1 year.

In 48 unions seniority was a factor in determining when an employee could secure his vacation. The wishes of the employee, his marital status, and the period for school vacations were listed by a few unions as influencing the timing of vacations.

Forty-one local unions stated that if a holiday fell during the vacation period another day would be added to the vacation. Over 50 unions reported that holidays with pay were given members on 6 occasions—the same days which were paid for in company plans. The less important holidays likewise followed a similar pattern.

Wage Earners' Debts

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

929

Wage Earners and the Loan Shark ¹

The term "loan shark" has been associated in recent years almost entirely with money lenders making loans to wage earners at charges higher than the law allows. Various studies of interest charged by such lenders have revealed rates ranging as high as 1,350 percent per year.

All of the States have some kind of legislation intended to curb the activities of such agencies, but the laws vary greatly in effectiveness. In some jurisdictions the only protection for the borrower is under the usury laws; others have statutes regulating small-loan activities, but these are largely without effect because of deficiencies in the law or inadequate enforcement. A third group of States has been able, through well-drawn laws and vigorous enforcement, to reduce to a minimum the activities of the loan shark. The business of such lenders flourishes in direct proportion to inadequate legislative provision and enforcement.

The wage earners who, of necessity, are the chief patrons of the loan sharks are individually at a great disadvantage in their dealings with them. Nearly every State has created a special body—usually termed the labor department—to look after the welfare of working people. Recognizing that the credit needs of wage earners, and the sources from which such needs are filled, are a vital factor in the welfare of workers, the International Association of Governmental Labor Officials at its 1938 meeting appointed a committee to study and report on the whole question. The final report of this committee was made to the 1940 convention.²

In its report the committee points out that since the first decade of the present century there has been general awareness of the prevalence and antisocial character of these lenders' operations, and many States have adopted measures to forestall their activities. Penalties for usury have been strengthened and certain forms of security outlawed in some jurisdictions.

Loan sharks have been driven out of a number of States by enactment and aggressive enforcement of stringent regulatory laws. This loss of territory, however, has been more than offset by the very rapid growth of illegal lending in other areas.

Although the total loan balance of loan sharks is small as compared with that of legitimate loan agencies, their charges account for a disproportionate part of the interest charges paid by borrowers, as the following table indicates.

¹ From Monthly Labor Review for November 1940.

² Report of the special committee (Eugene B. Patton, chairman) of the International Association of Governmental Labor Officials on the Enforcement of Laws Against Loan Sharks. The report was prepared with the assistance of Rolf Nugent of the Russell Sage Foundation.

TABLE 1.—*Estimated loans outstanding and charges of consumer loan agencies, in 1937*

Type of agency	Estimated loans outstanding, end of year		Estimated charges collected during year	
	Amount	Percent of total	Amount	Percent of total
Personal loan departments of banks.....	\$216,000,000	22.7	\$22,000,000	8.4
Credit unions.....	94,000,000	9.9	9,000,000	3.4
Industrial banking companies.....	221,000,000	23.2	34,000,000	12.9
Regulated small-loan companies.....	351,000,000	36.9	108,000,000	41.1
Loan sharks.....	69,000,000	7.3	90,000,000	34.2
Total.....	951,000,000	100.0	263,000,000	100.0

Geographic Distribution of Loan-Shark Business

The extent of loan-shark operations in the different States varies according to the extent and effectiveness of the regulation of the business. The greater part of the loan-shark business is, as would be expected, carried on in the 12 jurisdictions which have not enacted legislation governing the small-loan business. In these States the only restrictions on interest charges are those imposed by the usury laws, and these usually provide inadequate penalties and rely upon court action by individual borrowers rather than by public prosecutors. In such States loan sharks therefore generally carry on their business openly and with considerable use of the various avenues of publicity. A second group of States has legal machinery, but notwithstanding its presence, a substantial part of the loan-shark business is done in those regions. "In these areas illegal lenders operate by means of evasive devices, by virtue of legal loopholes, or in sheer defiance of the regulatory law and prosecuting authorities." In the remaining States,³ the small-loan business is subjected to effective regulatory legislation. Nevertheless, these areas are not completely free of loan-shark operations.

In some jurisdictions, carelessness or lack of interest on the part of law-enforcement authorities has permitted illegal lenders to gain a foothold. And in others, legalistic interpretations of devices by the courts have prevented eradication of certain types of high-rate lenders by prosecuting officials. In large industrial cities, the job of protecting small borrowers from abusive loan contracts is a trying one even under the most favorable circumstances. Delays in obtaining information concerning illegal lending activities, difficulties of obtaining adequate evidence or testimony to support prosecutions, devices that give the color of legality to usurious contracts, and defense counsel skilled in obstructive tactics, frequently handicap the most vigorous and persistent prosecutors. Consequently a fringe of illegal lending, which can be minimized but not completely eradicated, persists in most industrial metropolises.

The extent of loan-shark balances in the three groups of States at the end of 1939, based upon estimates made by the Russell Sage Foundation, is shown in table 2.

³ Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, Virginia, West Virginia, and Wisconsin.

TABLE 2.—Estimated total and per capita loans outstanding, by classes of jurisdiction, end of 1939

Class of jurisdiction	Loans outstanding at end of year		Class of jurisdiction	Loans outstanding at end of year	
	Total	Per capita (based on 1930 urban population)		Total	Per capita (based on 1930 urban population)
All jurisdictions.....	\$71,760,000	\$1.04	States with partially effective small-loan laws.....	\$15,200,000	\$2.57
States with no special small-loan laws.....	46,500,000	6.98	Alabama.....	3,000,000	4.03
Idaho.....	700,000	5.41	Arkansas.....	500,000	1.31
Kansas.....	3,000,000	4.11	Delaware.....	300,000	2.44
Montana.....	1,200,000	6.63	District of Columbia.....	1,200,000	2.47
Nevada.....	300,000	8.71	Florida.....	2,000,000	2.63
North Carolina.....	3,400,000	4.20	Georgia.....	4,000,000	4.47
North Dakota.....	500,000	4.41	Kentucky.....	800,000	1.00
Oklahoma.....	7,200,000	8.76	Mississippi.....	500,000	1.48
South Carolina.....	1,800,000	4.85	Nebraska.....	400,000	.82
South Dakota.....	700,000	5.35	Tennessee.....	2,500,000	2.79
Texas.....	23,000,000	9.63	States with effective small-loan laws.....	10,000,000	.19
Washington.....	4,200,000	4.75			
Wyoming.....	500,000	7.13			

Legal Remedies

Statutes have been enacted, in most States, designed to protect either borrowers in general or specific classes of borrowers. The remedies provided by these acts fall into two classes—those available to the borrower himself, and those available to the State.

Remedies Available to the Borrower

The principal types of laws which provide individual borrowers with legal remedies against oppressive loan contracts are: (1) Usury laws, (2) wage-assignment laws, (3) chattel-mortgage laws, (4) property-and wage-exemption laws, and (5) regulatory small-loan laws. Every State has one or more of these types of laws and many have all five.

Usury laws.—Most of the States,⁴ as well as the District of Columbia and Hawaii, have usury laws. These in general set a maximum lawful rate of interest, and prohibit the taking of any interest in excess of this rate. The statutes differ widely, however, as regards remedies and penalties. Some merely permit the borrower, if sued, to prevent the collection of interest in excess of the maximum set by the law; others provide against the recovery of any interest whatever upon a usurious contract; and others provide a defense against both principal and interest by declaring usurious contracts void. Some laws also permit borrowers to apply the amount of usurious interest or all interest paid (or multiples of these amounts) toward reduction of the principal. Still others permit the borrower to recover all previous payments of either principal or interest.

In addition, some States authorize injunctions upon collections of usurious loans, or give the borrowers the right to compel the surrender and cancellation of usurious contracts.

⁴ Exceptions are Colorado, Maine, and New Hampshire.

Wage-assignment laws.—Thirty-one States⁵ have enacted legislation regulating transactions designed to evade lending laws by the assignment of wages. In most of these States assignments which violate the law are void. Such provisions place upon the employer the major responsibility for determining the validity of a given wage assignment before paying over wages of employees to the assignees.

Property- and wage-exemption laws.—Laws exempting from garnishment and attachment certain minimum amounts of wages and exempting from execution certain kinds and amounts of personal property are found in all of the States, the District of Columbia, and Hawaii.

Chattel-mortgage laws.—Although in most cases laws relating to chattel mortgages are intended for the protection of the mortgagees, some States do have provisions designed to protect the interests of the mortgagor. These provide that the wife or spouse must join in a mortgage on household goods,⁶ or permit foreclosure only by court action.⁷

Regulatory small-loan laws.—Laws regulating the lending of money in small sums (generally \$300 or less) are found in 39 jurisdictions.⁸ These permit rates higher than those allowed under the usury laws, but the borrowers generally have remedies under both the small-loan and the usury laws. All but 5 of the small-loan laws⁹ declare void and unenforceable any loan contract, subject to the law, in which any of the provisions restricting charges or affecting the making or collecting of loans are violated. Most of these statutes, either by express provision or by judicial construction, apply to any loan contract, whether made by nonlicensees or by those licensed under the law, if the principal amount of the loan does not exceed \$300. Therefore, even though the usury act does not render loan contracts void where excessive interest has been charged, the borrower may, under the small-loan act, have a usurious contract declared void as to principal as well as to interest.

Other remedies.—In addition to remedies under the above acts, there are several other possible avenues of redress for the borrower. Sometimes action for fraud may be brought against the lender, in which case damages may be recovered. Or if wrongful suit has resulted in loss of employment or other injury, suit for malicious prosecution or misuse of legal process may be maintained.

Remedies Available to the State

Remedies available to the State are of three kinds—criminal, administrative, and civil. Criminal action is possible under the usury laws of some States, under the general misdemeanor laws of some, and under the wage-assignment laws of others. Regulatory small-

⁵ Alabama, Arkansas, California, Colorado, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

⁶ Colorado, Illinois, Nebraska, New Hampshire, New Jersey, North Carolina, North Dakota, and Ohio.

⁷ Illinois, Indiana, and Ohio.

⁸ Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, and Wisconsin.

⁹ Those of Delaware, District of Columbia, Mississippi, New Mexico, and Texas.

loan laws, also, generally impose criminal penalties. State securities laws, Federal mail-fraud laws, and criminal conspiracy under common law may also be invoked in certain cases.

Administrative remedies necessarily rely for their effectiveness upon the powers conferred upon officials by the State laws, and these vary considerably.

Civil remedies not based upon statute are confined chiefly to injunctions against the carrying on of the offending businesses. Frequently such injunctions may be supplemented by the appointment of a receiver for the business enjoined. The purpose of this is to insure enforcement of the injunction and to "provide a sure means of protecting all of the current borrowers from any further unlawful exactions. It enables the court to supervise in one proceeding a lawful adjustment of each borrower's account with the loan shark."

The courts in several States¹⁰ have upheld the right of the State to act thus. Since the power of the district, county, or State's attorney to file such a bill may be questioned, the cooperation of the State attorney general is generally essential in this type of case when carried on by the State. Sometimes the local prosecuting attorney and the attorney general of the State join in initiating the proceeding.

Which course of action is pursued—whether criminal, administrative, or civil procedure—will depend upon the form of the State acts, court decisions, and conditions in the local courts. All three types of action have their place. "Injunction and a receivership of the instrumentalities of the public wrong unquestionably fit the needs as to loan sharks, and where this remedy has been sustained by the courts it has proven to be most effective." In fact, in States which lack regulatory small-loan laws and where, therefore, the loan-shark problem has been most severe, this is probably the only truly effective remedy.

The Wage Earner's Problem

As the greater part of the loans on which high rates are charged are usually small amounts or run for short periods, the high rates would not be disastrous if the loans were paid in full on maturity. However, a number of studies have disclosed that the lenders attempt to keep the borrowers in debt either by encouraging renewals or by so arranging the terms of repayment that it is difficult to repay the principal. One investigator found that half the borrowers had been indebted to the same lender for at least 3 years, and one of every 20 had been so indebted for 10 years or longer.

Also, a large proportion of the borrowers become indebted to several lenders, with the result that charges and payments become so heavy that many borrowers become "hopelessly enmeshed."

From the borrowers' point of view, the situation is difficult to remedy because many, if not most, of the borrowers are ignorant of their rights under the law, and they fear discharge if their employers learn of their predicament. Even when borrowers are disposed to make a fight for their rights, often they are ignorant of the defenses open to them. They may be deterred by the "harassment to which they are invariably subjected by the lender when legal defenses are

¹⁰ Kansas, Kentucky, Minnesota, Nebraska, and Tennessee.

raised." Again, under conditions imposed by the lender, it may be extremely difficult to prove usury, and wage earners are usually unable to pay for adequate legal representation. Neither can they afford to have payment of their wages held up pending litigation, or to leave work for attendance at court.

Thus, if the wage-earner borrower is left to his own devices, "he is generally beaten from the start in any legal contest with a money lender." However, there are certain ways, noted below, in which sympathetic assistance and support would materially strengthen his position as a litigant. It is suggested that State labor departments could be of assistance in all of these.

(1) Borrowers could be grouped together in making their defense. Not only would the cumulative effect of testimony of many borrowers enormously increase the likelihood of favorable action by the court, but "wholesale defense" would substantially reduce the cost of legal service. Attorneys who would be unwilling to take a single case for what the litigant could pay could afford to handle a number of similar cases for smaller individual fees. In most communities, also, the bar association "could easily be induced to defend a group of borrowers as a public service."

(2) Employers could be encouraged to cooperate in preventing enforcement of usurious claims against their employees.

(3) Public attention could be called to any failure in the administration of justice affecting wage-earner borrowers or in the enforcement of penal statutes for the protection of such borrowers. Publicity is a powerful weapon and the press can usually be depended upon to give effective assistance.

In the application of remedies open to the State, public labor departments can aid (1) by keeping in touch with the three State agencies concerned (the State attorney general, the local prosecuting officers, and the State authority administering the regulatory and licensing laws), (2) by assisting in tapping the sources of evidence in loan-shark cases, and (3) by giving active support to the law-enforcing agencies in their endeavors to cope with the loan-shark evil.



Wage Executions for Debt ¹

This article presents the results of a study of levies by creditors against the wages of employees in certain industrial establishments.² At the time this study was initiated, there was a prevalent belief that consumer debts had increased during the depression because of reduced incomes and unemployment, that wage earners returning to work were being harassed, and their wages attached by creditors. Information for the study was secured in June and July 1934.

The term "wage execution" is used to include both garnishment orders and assignments of wages presented for collection.

¹ Abstract of articles by Rolf Nugent, director of the Department of Remedial Loans, Russell Sage Foundation, and Frances M. Jones of the Bureau of Labor Statistics, in the Monthly Labor Review for February, March, and July 1936.

² The study of wage executions comprises part of a larger study of consumer debt which was initiated in April 1934 by a committee appointed by the Consumers' Advisory Board of the National Recovery Administration.

Garnishment orders are issued by a court and executed by a public officer,³ usually the sheriff, constable, or marshal. These orders direct the employer of a debtor to pay part or all of the wages due the debtor to the court officer, who in turn transmits this sum to the creditor.⁴

In a few States, garnishment of wages is prohibited entirely.

The proportion of current wages which may be taken by a garnishment order varies greatly between States. The marital status of the debtor and the nature of the debt frequently determine the amount or proportion of wages which may be attached. Garnishment orders in most States are issued only against wages due and payable on a given date.

Wage assignments, unlike garnishment orders, have no relation to court process. When a debt is secured by a wage assignment and the debtor defaults, the creditor may merely file a copy of the assignment with the debtor's employer and demand payment of the amount so assigned from the debtor's current salary or wages. In many States, there is no statutory reference to assignments of wages and the validity of these instruments depends upon the right to dispose of one's property, subject to restrictions imposed by judicial decisions. In some States, the assignment of wages not yet earned has been declared to be contrary to public policy, and partial assignments frequently have been declared to be invalid. In many States, the use of wage assignments has been regulated by statute, but these regulations usually affect only assignments given to secure loans. Some States, however, have placed a limitation upon the proportion of the current wage which may be assigned or collected under an assignment.

Frequency of Wage Executions

For the reporting industrial establishments⁵ during the period from May 1, 1933, to April 30, 1934, the rate of wage executions was 80 per 1,000 employees. In many instances, however, executions for more than one debt were brought against the same employee, and in other instances, where garnishment was periodic rather than continuous, more than one garnishment order was issued to collect the same debt. For the data covering the 12-month period, it was impossible in most instances to distinguish between these two types of duplication, but all duplications may be eliminated by comparing the number of individuals against whom executions were brought during the year with the average number⁶ of employees during this period. This frequency was 42 per 1,000 employees.

Table 1 shows the relationship of the number of wage executions and the number of individuals affected by them with the average number of employees during the 12-month period among establishments cov-

³ In some States, however, the plaintiff's attorney may execute the order.

⁴ Garnishment, technically, refers to the attachment by a creditor of property which belongs to the debtor, but which is held by a third party. The most common use of garnishment process, however, is to attach wages, and outside of the legal profession the word "garnishment" usually implies wage attachment. In several States garnishment is known as trustee process.

⁵ Hereafter, the phrase "reporting industrial establishments" will be used to refer to all employers who furnished data, with the exception of the New York railroad company and the New York City administration.

⁶ The mean of the number of employees on the pay rolls of reporting establishments on April 15, 1933, and April 15, 1934.

ered by the study in each city. In spite of the inadequacy of evidence, it seems safe to conclude that the rate of executions against old employees was at least twice as great as the rate against new employees.

TABLE 1.—Number and frequency of wage executions by cities, May 1, 1933, to Apr. 30, 1934

City	Number of reporting establishments	Average number of employees ¹	Wage executions		Individual employees involved	
			Number	Rate per 1,000 employees	Number	Rate per 1,000 employees
All cities.....	174	125,888	10,053	79.9	5,298	42.1
Atlanta, Ga.....	3	2,377	244	102.7	162	68.2
Baltimore, Md.....	5	2,485	3	1.2	3	1.2
Birmingham, Ala.....	5	11,852	4,071	343.5	2,027	171.1
Boston and vicinity, Mass.....	8	6,027	64	10.6	56	9.3
Buffalo, N. Y.....	5	2,547	54	21.2	50	19.6
Camden, N. J.....	4	6,991	5	.7	5	.7
Chicago, Ill.....	6	11,798	1,881	159.4	888	75.3
Cincinnati, Ohio.....	4	3,263	80	24.5	67	20.5
Cleveland, Ohio.....	3	2,848	63	22.1	45	15.8
Denver, Colo.....	3	1,445	44	30.4	35	24.2
Detroit, Mich.....	3	3,934	81	20.6	58	14.7
Indianapolis, Ind.....	4	1,739	0			
Jacksonville, Fla.....	4	452	4	8.8	4	8.8
Kansas City, Kans.....	3	1,064	256	153.8	157	94.4
Kansas City, Mo.....	3	628	28	44.6	16	25.5
Los Angeles, Calif.....	5	4,337	64	14.8	57	13.1
Memphis, Tenn.....	3	2,923	1,528	522.8	453	155.0
Minneapolis-St. Paul, Minn.....	3	1,550	43	27.7	23	14.8
Mobile, Ala.....	3	1,506	52	34.5	46	30.5
Newark-Jersey City, N. J.....	24	10,210	108	6.7	103	6.4
New Orleans, La.....	3	3,259	16	4.9	14	4.3
New York City-Westchester County, N. Y.....	32	16,555	341	20.6	334	20.2
Norfolk, Va.....	4	4,474	374	83.6	367	83.0
Portland, Maine.....	3	244	14	57.4	11	45.1
Portland, Oreg.....	3	422	4	9.5	4	9.5
Richmond, Va.....	3	3,314	345	104.1	112	33.8
San Francisco, Calif.....	6	2,515	41	16.3	35	13.9
St. Louis, Mo.....	4	3,014	17	5.6	13	4.3
Savannah, Ga.....	3	400	7	17.5	7	7.5
Seattle, Wash.....	5	681	10	14.7	9	13.2
Washington, D. C.....	7	4,428	211	47.7	137	30.9

¹ Mean of number of employees at beginning and at end of year.

² At least 1 establishment in each of these cities failed to report the number of individuals affected. Each such establishment, however, reported a very small number of executions and it was assumed that each of these executions had been brought against a different employee.

Causes of Differences in Frequency

The extremely wide variation in the rate of wage executions not only between reporting establishments but also between cities is adequate evidence that internal and external factors have an influence upon the rate of wage execution.

Obviously, variations in the statutory provisions in each State governing both garnishment orders and wage assignments have a material bearing upon the extent to which these devices are used by creditors. One may expect wide differences in the frequency of garnishment orders between industrial establishments in Florida, where all wages of the head of a family appear to be exempt from attachment, or in the District of Columbia, where the head of a family has an exemption of \$100 a month, and in Georgia, where 50 percent of wages above \$1.25 a day may be attached, or Virginia, where the exemption for heads of families is \$50 a month.

It is, however, an extremely hazardous procedure to interpret the rights of creditors and debtors by an analysis of the statutes governing

wage executions in each State. In many instances, local practices entirely nullify statutory protections against harsh pay-roll collections.

As part of the consumer debt study, an analysis of the laws governing garnishment and wage assignments was made. By reference to this analysis and, wherever possible, by inquiries concerning local practice, the States covered by the sample of industrial establishments were divided into three groups: (1) Those in which wage executions were generally severe, (2) those in which wage executions were limited but generally effective, and (3) those in which wage executions were generally ineffective. Even disregarding the possibility of misinterpretation arising from peculiarities of local practice, such a classification is extremely crude.

The classification was as follows:

<i>Generally severe</i>		
Alabama	Kansas	Oregon
Colorado	Maine	Tennessee
Georgia	Michigan	Virginia
Illinois	Minnesota	
<i>Limited</i>		
Louisiana	Missouri	New York
Massachusetts	New Jersey	Ohio
<i>Generally ineffective</i>		
California	Florida	Maryland
District of Columbia	Indiana	Washington

Table 2 shows the frequency of wage executions when the data for all reporting industrial establishments are divided into these three classes. The column "Rate per 1,000 (weighted average)" gives the relationship between the total number of executions and the total number of employees. The column "Rate per 1,000 (mean)" shows the mean of the individual frequencies for all establishments in the class.

TABLE 2.—Number and frequency of wage executions, by severity of wage execution laws, May 1, 1933 to Apr. 30, 1934

Relative severity of execution practice	Number of establishments	Number of employees	Wage executions		
			Number	Rate per 1,000 employees (weighted average)	Rate per 1,000 employees (mean)
All States.....	174	125, 888	10, 053	79.9	42.2
States where executions are—					
Generally severe.....	48	47, 904	8, 944	186.7	114.1
Limited.....	90	61, 348	776	12.6	13.5
Generally ineffective.....	36	16, 636	333	20.0	17.9

The establishments in States in which wage executions are severe account for the preponderant part of all executions and the rate per 1,000 employees in these States is much greater than in the other two groups. It is noteworthy that the frequency in the group where wage executions are generally ineffective is actually greater than that for the group where executions are restricted. This may result from misinterpretation of the statutes. A more likely reason, however, is

that this part of the sample includes several establishments where wages are relatively high. A considerable proportion of employees in these establishments may, therefore, be subject to wage executions, even though this method of collection might be ineffective against large groups in other employments.

Kinds of Debt

An analysis, by number of executions and amount of debt, of the kinds of debt represented by wage executions reported by the 174 industrial establishments for the 3-month period is shown in table 3.

TABLE 3.—Kinds of debt represented by wage executions against employees of reporting industrial establishments, Feb. 1, to Apr. 30, 1934

Kind of debt	Executions		Amounts of debt represented by executions			
	Number	Percent of total	Number reporting amount	Average amount reported	Estimated total amount	Percent of total debt
Total, all kinds of debt	2,500	100	1,678	\$33.55	\$83,519	100
Clothing	1,139	46	635	21.58	24,579	30
Bankruptcy	194	8	194	15.72	3,049	4
Loans	186	7	157	57.35	10,667	13
Credit unions	3		3	56.00	168	
Industrial and commercial banks	22		18	94.97	2,989	
Licensed lenders	56		47	66.53	3,726	
Unlicensed lenders	79		66	28.38	2,242	
Individuals and unidentified	26		23	92.44	2,403	
Furniture and household appliances	178	7	111	48.44	8,622	10
Furniture	120		86	45.58	5,470	
Radios	47		15	45.99	2,162	
Refrigerators	5		5	110.29	551	
Washing machines	5		5	43.23	216	
Pianos	1					
Groceries and meats	171	7	137	20.03	3,425	4
Board and housing	127	5	101	55.50	7,049	8
Rent	83		68	63.80	5,295	
Board	25		19	42.24	1,056	
House repairs	17		12	37.87	644	
Moving	2		2	5.00	10	
Medical and burial expense	78	3	62	44.53	3,473	4
Doctors	57		47	36.45	2,078	
Dentists	2		2	17.25	35	
Hospitals	2		2	90.45	181	
Drugs and medicine	4		2	9.97	40	
Eyeglasses	2		1	9.20	18	
Burial	11		8	100.34	1,104	
Jewelry	66	3	57	23.60	1,558	2
Automobile purchase and operation	66	3	56	47.64	3,144	4
Finance company	9		7	121.24	1,091	
Repairs	19		17	17.80	338	
Supplies	35		29	13.81	483	
Liability for injuries	2		2	555.95	1,112	
Hired car	1		1	4.40	4	
Miscellaneous	62	3	44	45.38	2,814	3
Attorney	29		23	26.52	769	
Collection agency	10		7	34.18	342	
Department store	4		2	10.32	41	
Sporting goods	4					
Coal	3		1	3.25	10	
Correspondence course	2		1	26.70	53	
Newspaper bill	2		2	5.11	10	
Professional services	1		1	10.70	11	
Building excavation	1		1	182.00	182	
Alimony	1		1	55.00	55	
Bonding fee	1		1	5.00	5	
Lot	1		1	221.00	221	
Damage suit	1		1	21.23	21	
Musical instrument	1		1	24.80	25	
Business debt	1		1	567.13	567	
Unidentified	233	9	124	64.88	15,117	18

The amount of debt was not reported in many instances. Also, one establishment in Birmingham reported identical amounts of debt and weekly wages for a large number of executions. The amount-of-debt figures for this group of executions were, therefore, discarded.⁷ In order to estimate the total amount involved in each kind of debt, the average reported amount of individual debts was multiplied by the total number of executions for that kind of debt. The estimated total debt used in computing percentages is the sum of the estimated amounts for each general class of debt. This sum differs slightly from the sum of the estimated amounts for all subdivisions and from the amount which would result from multiplying the total number of debts of all kinds by the average amount reported for all kinds of debt.

A wide range in amount was reported for certain classes of debt; the median amount frequently differed materially from the average; and the average amount varied materially among geographic areas. A considerable amount of error is, therefore, inherent in the method of estimating. More elaborate methods gave but slight assurance of greater accuracy, however, and the simple one has, therefore, been chosen. The error is not sufficient to invalidate the general conclusions to be drawn from the table.

The most remarkable feature of this analysis is the prominence of debts for clothing, which account for almost half of the total number of executions. The frequency of wage executions for clothing is due to the application, in recent years, of installment technique to this field of merchandising. Since repossession, which is the characteristic method of enforcing most installment contracts, is impracticable for clothing merchants, heavy reliance for collection is put upon wage assignments and court process. The large number of executions for jewelry debts, where similar conditions prevail, and the relatively small number of executions by automobile finance companies, which rely upon repossessions for enforcing contracts, are noteworthy.

The number of executions brought by creditors whose business could not be identified remains large in spite of strenuous efforts to identify them by an examination of telephone and city directories and by correspondence with persons living or doing business in the same locality. Practically all of these executions were brought by individuals. A few may have been the agents of corporate or trade-name creditors.⁸ Most of them however, were probably small grocers, landlords, boarding-house keepers, nurses, and midwives, who had extended credit, or friends and relatives who had lent money.

Clothing bills account not only for the largest number of executions, but also represent the largest part of the total debt. Claims of the bankruptcy courts and claims for jewelry accounts, which were prominent with respect to number of executions, are much less important with respect to the amount of debt.

⁷ This establishment reported identical amounts of debt and wages for 220 wage assignments. Since all of the assignments represented debts for clothing, it was assumed that some clothing merchants made a practice of taking and enforcing assignments for the amount of current wages only, regardless of the amount of the account.

⁸ The practice among installment merchants of bringing suit in the name of an employee or attorney appears to have been most common in New York City.

Costs of Wage Executions

In examining the cost of wage executions for debt, it is necessary to distinguish among those costs which are borne by the debtor, the creditor, the employer, and the general public. Costs which are borne by the creditor have been excluded from consideration. In every jurisdiction a creditor is entitled to collect the costs of court process in addition to the proved amount of his claim. Although court costs do not, of course, cover all the creditor's expenses of collection, it is assumed that these expenses have been anticipated by the creditor and included in his mark-up or credit charges. There has also been excluded from consideration that part of the cost of court process which is borne by the public. Court process is expensive. The cost must be borne either by the debtor or by the taxpayer, and in some jurisdictions a considerable part of the cost is probably saddled upon the latter. It would be impossible, however, to measure the extent to which the public subsidizes collections of debt through court process without an elaborate cost-accounting study in each jurisdiction.

There are no additional collection costs put upon the debtor in the enforcement of wage assignments. Consequently, the comments which follow apply only to garnishment process.

There is a considerable variation in the court costs among the cities represented in the sample. The highest fees were for two southern cities, where the cost of an initial garnishment action was \$7, and of subsequent regarnishments \$2.50 and \$1, respectively. In two other cities, one in the South and one in the North, the cost of judgment was \$2, the cost of the original garnishment order \$3.50, and subsequent regarnishments \$1. In another southern city, a pay-roll clerk reported that the average cost of garnishments was \$4 a month. In several jurisdictions, particularly in justice of the peace courts, there was a graduated scale of charges, depending upon amount of the debt. The lowest charge was reported for a west-coast city, where court costs totaled \$1.50 for each garnishment action.

The expense which wage assignments and garnishments put upon employers is fugitive, but nevertheless real. In the smaller establishments, executions are usually handled by the pay-roll clerk in the normal course of his duties. Larger establishments, on the other hand, frequently maintain special departments for handling wage executions, which employ clerks and occasionally an attorney. The motive for organizing a special department presumably is to reduce the cost of handling executions, and yet in two of the largest of these departments the cost was estimated at \$5 per execution.⁹ In smaller establishments, where the handling of pay-roll levies interrupts the established routine, the expense may be even greater.

Employers' Policies

Twenty-eight employers in the sample had provided funds from which deserving employees might borrow in emergencies. Six employers had assisted their employees in establishing credit unions.

⁹ One of these estimates was made by the employer. In the other instance the investigators arrived at a similar figure by estimating the salaries of those engaged in handling garnishment actions and wage assignments and dividing by the number of executions handled.

The effect of these credit-granting devices upon the number of executions cannot be measured with any degree of conclusiveness, due to the impossibility of isolating the variety of other factors which influence the rate of executions. Without exception the individual employers reported that the existence of these credit-granting facilities had been a factor in limiting executions. The frequency of wage executions in certain plants which had loan funds makes it clear, however, that such facilities do not eliminate wage executions for debt.

Twenty-eight of the one hundred and seventy-four reporting establishments maintained a policy of discharging employees whose wages were attached; 11 discharged for the first execution, 10 for the second execution, and 7 for the third execution. Most of these employers, however, pointed out that exceptions were sometimes made in applying the policy. Although the remaining 146 establishments had no definite policy of discharging employees for wage attachment, 44 establishments indicated that, under certain circumstances, an execution against wages might lead to discharge. Six establishments which invariably discharged for a single execution recorded no executions against their employees during the period studied. There were, however, 46 other establishments in the sample which, despite a more lenient policy, also had no wage executions.

In view of the expense incurred by employers as the result of wage executions, it is noteworthy that so few employers in the sample maintained a policy of discharging employees for one, two, or three executions. One reasonable explanation is that, in many instances, the savings which would accrue as the result of a drastic discharge policy would be more than offset by the increased costs of labor turn-over. It is probable that humanitarian considerations also influence these policies. An effort was made to determine whether the severity of garnishment laws, the size of plant, the average weekly wages of employees, etc., had any effect on the discharge policy. Variations in policy appeared to be entirely accidental. With the possible exception of differences arising from variations in cost of labor turn-over, the policies of particular establishments seemed to reflect the personality of their executives to a far greater extent than more objective characteristics of the plant.

Women in Industry

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Note

Except as otherwise indicated all the articles in this section were prepared by the Women's Bureau of the United States Department of Labor.

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Sources of Information on Women in Industry

On some phases of employment, information concerning women is closely bound up with that concerning men. For this reason, in addition to those specifically brought together under the topic Women in Industry, further separate data as to women are shown in various other sections in this Handbook of Labor Statistics.¹

However, there are certain factors that must be taken into special account in connection with the work of women. Employed women are concentrated in occupation groups entirely different from those absorbing the majority of working men, and the details of the particular processes women perform in factories also differ markedly from those carried on by men. Women have been called on to fill in when and where an added labor force was needed, frequently in the jobs less attractive because lower paying. Both in manufacturing production and in trade, many of the industries in which large proportions of the workers are women are highly seasonal in character and have tended to afford very irregular employment. The largest occupation group engaging women has been domestic and personal service, often with very low pay; the second, of more recent growth, is clerical work.

With low wages and irregular employment, women have had more difficulty than men in developing employee organizations to protect their interests in their work relationships. This is one of the important reasons why certain of the legislation to secure adequate wages and working conditions has been sought especially for the welfare of women.

The chief center of information on working women is the Women's Bureau of the United States Department of Labor, created by Federal law in 1920 to investigate and report upon the situation of wage-earning women, and to promote their welfare. Following its own careful surveys, and after consultation with other experienced authorities, the Women's Bureau recommends acceptable employment standards designed to promote the health and welfare of working women.

The Women's Bureau is constantly conducting direct field investigations, and is engaged in continuous research and analysis of data from available sources on various phases of the employment of women—for example on their chief occupations, conditions surrounding their work, employment trends, wages and wage trends, women's responsibility for family support, industrial injuries to, and occupational diseases of, women, labor legislation for women, and many other subjects connected with their working life.

¹ For example, see the sections on Defense Labor Activities, Industrial Home Work, Labor Standards, Minimum Wage and Wages and Wage Regulation.

Plant pay-roll books constitute a basic source of information on woman employment, and many individual employers give confidential data, which may be made public in compiled statistical form, to officials of the Women's Bureau, the Bureau of Labor Statistics, and State labor departments. Usually the Women's Bureau supplements this from interviews with workers themselves, trade union officers, employers, and other informed persons or agencies.

Other primary sources whose data on women workers are examined and analyzed by the Women's Bureau include records of the Bureau of the Census, the Bureau of Employment Security and other bureaus of the Federal Security Agency, the Civil Service Commission, and State labor departments, especially their divisions dealing with women in industry, minimum wage, and industrial injuries or occupational diseases.

Additional sources of information on some phase of women's work include such governmental agencies as the United States Office of Education (on vocational education and training), or the Works Progress Administration; the various trade unions, especially those in industries employing many women, notably the International Ladies' Garment Workers and the Amalgamated Clothing Workers, both of which do continuing research; employers' organizations, such as the National Industrial Conference Board; and for some purposes files of social agencies. There are several organizations that give special attention to the needs of employed women, as for example the National Consumers' League, the National Women's Trade Union League, the Young Women's Christian Association, the Business and Professional Women's Clubs, the Association of University Women, the National League of Women Voters.

The pages following present the findings of recent investigations by the Women's Bureau and other agencies on various aspects of women's industrial life.



EMPLOYMENT OF WOMEN ¹

The history of woman employment in this country has been a history of the transition from household manufacture to factory and office and sales occupations outside the home. This shift has developed with the growth of machine fabrication as a substitute for the older skilled handicrafts and the consequent industrialization of society, and with the parallel change in public thinking as to the education and position of women.

As the major forces that impelled economic development along the lines that now are known may be listed the progress of invention and introduction of machinery, and later the splitting up of machine work into more and more minute processes and the consequent intensive development of technology now customarily referred to as the first and second industrial revolutions. These had a profound effect on the

¹ Abstracted from U. S. Department of Labor, Women's Bureau Bull. No. 155: *Women in the Economy of the United States*, by Mary Elizabeth Pidgeon, Washington, 1937.

entire life and work of women. The amount of their gainful work done outside has increased, usually with greater rapidity than the woman population, as the following figures show, for the decades from 1870 to 1930:

	Percent of increase in—	
	Woman employment	Woman population
1870 to 1880-----	44.2	29.0
1880 to 1890-----	51.3	27.9
1890 to 1900-----	32.8	22.5
1900 to 1910-----	51.8	22.3
1910 to 1920-----	15.9	17.1
1920 to 1930-----	25.8	20.6
1930 to 1940-----	² 20.3	14.4

¹ Changes in date of collecting census data and in instructions to enumerators are considered responsible for much of the reduction in this figure.

² Labor force, 1940.

Industries that tend to have an especially great seasonal fluctuation in employment also are likely to be the important woman-employers, as for example, clothing manufacture and food processing. Many of these have a well-defined busy season at a similar time each year.



Trend in Employment of Women, 1938 to 1940

Beginning in September 1937, reports on the employment of women have been prepared by the Women's Bureau from pay-roll records that employers have furnished by sex twice a year to the Bureau of Labor Statistics in connection with its regular monthly collection of pay-roll data. The firms reporting data by sex represent industries that employ about two-thirds of the women in manufacturing. The 12 States from which these reports come employ about three-fourths of all women in manufacturing.¹ The table following gives the trend in the employment of men and women as shown by these reports over the period since they first became available.

*Indexes of the employment of women and men in 24 important industries in 12 large industrial States*¹

[Based on employment in September 1937=100]

Industry	Men					Women				
	1938		1939		1940	1938		1939		1940
	March	September	March	September	March	March	September	March	September	March
<i>Manufacturing</i>										
Textile industries.....	84.5	91.3	96.2	97.3	93.6	86.9	90.5	98.4	97.0	92.2
Cotton goods.....	88.2	89.9	99.9	104.5	106.7	85.6	85.9	93.4	96.6	96.6
Knit goods.....	91.8	93.3	93.8	91.5	86.6	91.9	92.1	99.8	100.2	96.8
Hosiery.....	93.9	95.3	94.5	89.5	81.6	93.6	92.6	102.0	96.9	90.7
Underwear.....	87.9	89.9	98.5	95.2	99.8	91.7	93.9	98.9	107.1	107.7
Silk and rayon.....	77.9	80.1	80.0	77.4	72.7	82.5	78.5	82.9	77.3	71.0
Woolen and worsted.....	71.2	91.7	95.5	96.8	87.1	80.4	103.3	114.9	109.4	97.9

¹ Prepared by the United States Women's Bureau from reports by employers.

¹ California, Connecticut, Illinois, Indiana, Massachusetts, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, and Pennsylvania.

Indexes of the employment of women and men in 24 important industries in 12 large industrial States—Continued

Industry	Men					Women				
	1933		1939		1940	1933		1939		1940
	March	September	March	September	March	March	September	March	September	March
<i>Manufacturing—Continued</i>										
Clothing industries.....	97.1	99.7	101.6	101.1	103.2	94.3	95.0	98.0	97.1	100.6
Men's clothing.....	95.3	98.2	99.9	100.6	102.5	89.5	90.2	93.2	94.0	96.9
Suits and overcoats.....	95.7	98.2	98.7	98.5	100.0	89.6	93.9	94.8	97.0	96.8
Cotton, work, shirts and collars.....	92.6	97.1	103.5	107.6	110.8	91.6	89.6	94.6	94.3	99.7
Women's clothing.....	100.1	102.2	104.6	101.4	103.9	99.9	100.4	103.5	100.2	104.6
Undergarments, etc.....	90.6	94.0	96.6	104.3	98.7	98.9	96.0	97.0	98.1	99.5
Coats and suits.....	101.6	99.9	104.1	97.2	101.9	95.5	101.8	100.9	97.3	96.2
Dresses, cotton.....	96.0	102.6	110.4	110.4	108.5	96.5	93.6	104.3	96.2	101.9
Dresses, other.....	99.0	103.8	102.7	98.2	102.5	99.8	104.4	104.1	99.9	107.8
Food industries: Confectionery.....	90.2	95.0	87.0	97.6	91.0	82.1	94.3	78.2	93.8	80.4
Leather industries: Boots and shoes.....	99.3	97.7	106.5	99.3	103.2	108.5	103.7	115.5	110.0	112.9
Tobacco industries: Cigars.....	100.0	100.6	95.4	97.2	90.0	100.0	105.2	99.4	104.5	97.8
Paper and printing:										
Book and job.....	94.4	91.3	93.4	91.5	93.6	85.7	82.9	84.4	85.3	87.3
Paper boxes (set up).....	89.9	95.3	96.2	105.0	100.9	79.8	87.8	82.4	97.2	85.6
Electrical industries:										
Electric machinery and supplies.....	75.1	69.0	75.8	79.8	90.2	69.6	66.9	77.1	87.5	95.7
Radios and phonographs.....	45.5	53.1	59.9	79.8	71.3	42.2	61.5	76.9	102.4	80.2
Metal industries: Hardware.....	77.9	75.4	90.3	87.4	93.5	66.2	67.1	82.5	88.0	101.1
Rubber goods:										
Tires and tubes.....	79.4	76.9	81.1	85.1	84.6	68.1	70.0	74.0	77.8	80.2
Boots and shoes.....	73.3	73.7	77.2	72.0	68.5	70.3	66.8	77.7	73.9	70.0
Glass and pottery.....	79.1	80.4	87.1	88.6	92.9	80.7	80.3	86.7	93.5	101.5
<i>Nonmanufacturing</i>										
Laundries.....	95.3	93.9	91.7	98.3	95.6	89.2	91.5	86.7	93.4	89.4
Dyeing and cleaning.....	93.9	102.4	91.0	100.7	93.2	82.0	96.2	85.4	96.9	89.2



Women in the Labor Force, 1940

Preliminary reports for the 1940 Census of Occupations show that 12,846,565 women of 14 years or older were in the labor force. This includes job seekers with no experience, a group not included in the 10,679,048 women of the same ages who were reported gainfully employed in 1930. In 1940, 86.8 percent of the women in the labor force had employment other than on emergency work, and 9.9 percent were seeking jobs.

In 1940, of all women 14 years of age and over, 25.5 percent were in the labor force. Thus the proportion did not differ greatly from 1930 when it is considered that new workers were included in the later year but not in the earlier. After the census was taken, the defense program greatly accelerated employment, but no complete figures are available to show the numbers of women newly taken on.

The proportions of the women in the various States who were employed in 1930 and in 1940 are shown in the following table.

*Proportion of women 14 years old and over who were in labor force, 1930 and 1940, by State*¹

State	Percent of all women who were—		State	Percent of all women who were—	
	Gainful workers, 1930	In labor force, 1940		Gainful workers, 1930	In labor force, 1940
United States total.....	24.3	25.5	South Atlantic—Continued.		
New England:			Virginia.....	21.9	24.9
Maine.....	23.6	25.7	West Virginia.....	14.9	17.0
New Hampshire.....	28.4	29.9	North Carolina.....	25.7	27.8
Vermont.....	21.9	23.5	South Carolina.....	34.6	32.4
Massachusetts.....	31.9	31.6	Georgia.....	30.3	30.0
Rhode Island.....	33.4	34.9	Florida.....	28.2	30.7
Connecticut.....	29.6	32.4	East South Central:		
Middle Atlantic:			Kentucky.....	16.5	17.7
New York.....	29.3	30.9	Tennessee.....	21.2	22.3
New Jersey.....	27.6	30.7	Alabama.....	27.2	24.1
Pennsylvania.....	23.3	25.3	Mississippi.....	32.3	26.7
East North Central:			West South Central:		
Ohio.....	22.1	23.3	Arkansas.....	18.6	17.4
Indiana.....	19.8	21.3	Louisiana.....	25.8	24.2
Illinois.....	25.1	27.0	Oklahoma.....	16.3	18.8
Michigan.....	21.5	23.3	Texas.....	20.8	23.0
Wisconsin.....	20.7	22.0	Mountain:		
West North Central:			Montana.....	18.8	20.8
Minnesota.....	22.1	23.4	Idaho.....	15.8	16.5
Iowa.....	18.2	19.2	Wyoming.....	18.3	19.2
Missouri.....	22.0	23.6	Colorado.....	22.0	21.7
North Dakota.....	16.9	19.3	New Mexico.....	16.6	19.0
South Dakota.....	16.5	18.8	Arizona.....	21.6	21.8
Nebraska.....	18.5	19.7	Utah.....	17.6	17.3
Kansas.....	17.8	19.4	Nevada.....	21.2	21.7
South Atlantic:			Pacific:		
Delaware.....	23.9	28.4	Washington.....	22.6	22.3
Maryland.....	26.4	28.3	Oregon.....	23.3	23.6
District of Columbia.....	42.7	46.1	California.....	26.1	26.6

¹ Computed from preliminary data from the census of 1940, by the U. S. Women's Bureau.



Chief Occupations of Gainfully Employed Women¹

The characteristic occupational shifts in the United States, the marked decline in agriculture, and the marked increase in clerical, professional, and trade occupations are illustrated from the percent distribution of women in the various main groups in 1880, 1910, and 1930, as follows:

	Percent distribution of women in—		
	1880	1910	1930
Agriculture and allied industries.....	22.5	22.4	8.5
Manufacturing and mechanical industries.....	23.8	22.5	¹ 17.5
Trade, transportation, and communication.....	2.1	7.3	11.6
Clerical occupations.....	.3	7.3	18.5
Professional service.....	6.7	9.1	14.2
Domestic and personal service.....	44.4	31.3	29.6
Public service (not elsewhere classified).....	.2	.1	.2

¹ This represents a decline chiefly in the earlier manual skilled work, such as that of tailoresses and dressmakers and seamstresses. If the figure be taken on factory occupations alone, the proportion in 1930 is greater than in the earlier years. Also see summary immediately following.

² U. S. Women's Bureau Bull. No. 155: Women in the Economy of the United States, by Mary Elizabeth Pidgeon, Washington, 1937.

This picture of occupational shifts is rounded out by consideration of the marked increases in woman employment in the five major groups in which they are found. From 1910 to 1930, their numbers more than doubled in the clerical, professional, and trade groups, increased by one-fourth in domestic and personal service, and by two-fifths as factory operatives, though declining heavily in the chief hand trades, as shown in the following:

	<i>Percent increase in number of women em- ployed, 1910 to 1930</i>
All occupations.....	33.1
Domestic and personal service.....	25.7
Clerical occupations.....	237.5
Manufacturing and mechanical industries.....	3.6
Chief hand trades.....	165.3
Factory operatives.....	39.7
Trade.....	103.7
Professional service.....	107.7

¹ In this case a decrease, as group comprises dressmakers and seamstresses not in factories, and milliners and millinery dealers.

The following list shows the major occupations of gainfully employed women.² Though the order within the various main groups may shift somewhat, it is expected that when 1940 census data become available a list substantially similar to this still will include the chief employments of women.

Service:

Cooks and "other servants" in hotels, restaurants, boarding houses, and all other.

Laundresses (not in laundry).

Housekeepers, stewardesses.

Waitresses.

Laundry operatives, laborers.

Midwives, nurses (not trained).

Barbers, hairdressers, manicurists.

Charwomen, cleaners.

Janitresses, sextons.

Cleaners, dyers, pressers.

Elevator tenders.

Clerical:

Stenographers, typists.

Clerks (except "clerks" in stores).

Bookkeepers, cashiers, accountants.

Agents, collectors.

Messengers, errand, and office girls.

Manufacturing:

Textile workers.

Clothing workers.

Dressmakers, seamstresses (not in factory).

Food and allied workers.

Leather workers.

Cigar, tobacco workers.

Manufacturing—Continued.

Iron and steel, machinery, vehicle workers.

Paper, printing, and allied workers.

Electrical machinery, supply workers.

Milliners, millinery dealers.

Metal (except iron and steel) workers.

Professional and semiprofessional:

Teachers (including college).

Trained nurses.

Musicians, artists, teachers of music, art.

Attendants, helpers (professional service).

Semiprofessional, recreational.

Librarians.

Social, welfare workers.

Actors, showmen.

Authors, editors, reporters.

Physicians, surgeons, osteopaths, dentists.

Designers, draftsmen.

Photographers.

Trade:

Saleswomen, "clerks" in stores.

Agents, insurance, real estate, advertising.

² All occupations in which as many as 5,000 women were reported in 1930.

Trade—Continued.

Laborers, porters, helpers in stores.
 Bankers, brokers, money lenders.
 Decorators, drapers, window dress-
 ers.
 Fruit and vegetable graders and
 packers.
 Inspectors, gagers, samplers.
 Managers, officials and proprietors:
 Keepers and managers of hotels,
 boarding and lodging houses, res-
 taurants, cafes.
 Retail dealers.

Managers, officials and proprietors—
 Continued.

Manufacturers and their managers,
 officials, foremen, overseers.
 Postmistresses.
 Officials, inspectors (public ser-
 vice.)
 Managers and officers in trade.
 Transportation and communication:
 Telephone operators.
 Telegraph operators.
 Agriculture:
 Wage earners.



Proportions of Women in the Labor Force of Various
 Manufacturing Industries ¹

Women's position in manufacturing is shown in the following list of industries, each of which employed 5,000 or more woman wage earners in 1929. In 16 of these industries one-half or more of the wage earners were women, and in 22 one-fourth but less than one-half were women. The proportion women form of the total is shown in the following:

Women comprised 50 percent or more of all wage earners

	Percent		Percent
Handkerchiefs	88	Perfumes, cosmetics, and other toilet preparations.....	60
Men's clothing other than coats and suits.....	84	Bags, except paper, not made in textile mills.....	59
Gloves and mittens (cloth and leather combined).....	84	Envelopes.....	58
Women's clothing.....	71	Silk and rayon goods (textiles)...	57
House furnishing goods, n.e.c. ¹	67	Men's coats and suits.....	55
Embroideries and trimmings.....	67	Fancy and miscellaneous articles, n.e.c. ¹	55
Cigars and cigarettes.....	67	Chewing and smoking tobacco and snuff.....	52
Knit goods.....	64		
Confectionery.....	63		

Women comprised 25 but less than 50 percent of all wage earners

	Percent		Percent
Boxes, paper, n.e.c. ¹	49	Rayon and allied products (chemicals).....	40
Fruit and vegetable canning.....	48	Cordage and twine.....	36
Sea-food canning.....	47	Paper goods, n.e.c. ¹	36
Stationery goods, n.e.c. ¹	47	Carpets and rugs, mats, matting, etc.....	35
Rubber boots and shoes.....	45	Tin cans and other tinware, n.e.c. ¹ ...	30
Cotton goods.....	44	Electrical apparatus, including radios and phonographs.....	29
Drugs and patent medicines.....	44	Jewelry.....	28
Bookbinding and blank-book mak- ing.....	43	Rubber goods other than tires and tubes and boots and shoes.....	25
Clocks, watches, etc.....	42	Pottery, including porcelain ware...	25
Woolen and worsted goods.....	41	Stamped and enameled ware.....	25
Boots and shoes other than rub- ber; cut stock and findings.....	40		
Toys, games, etc.....	38		

¹ Not elsewhere classified.

¹ U. S. Women's Bureau Bull. No. 172: The Woman Worker Today, by Elisabeth D. Benham.

Women comprised 10 but less than 25 percent of all wage earners

	Percent		Percent
Dyeing and finishing of textiles	23	Bread and other bakery products	18
Wire work, n.e.c. ¹	23	Rubber tires and inner tubes	16
Hardware, n.e.c. ¹	21	Glass	12
Printing and publishing, book and job	19	Meat packing, wholesale	10
		Paper	10

Women comprised less than 10 percent of all wage earners

	Percent		Percent
Printing and publishing, news-paper and periodical	9	Furniture, including store and office fixtures	6
Motor-vehicle bodies and parts	7	Foundry and machine-shop products, n.e.c. ¹	3
Nonferrous metal alloys and products, not including aluminum	7	Motor vehicles, except motorcycles	3

¹ Not elsewhere classified.



Women Employed in Trade ¹

Retail Trade

Women are engaged in a great variety of retail industries, as is shown by the Census of Business for 1935. Those employed include clerical workers, waitresses in store restaurants, maids in rest rooms, and so forth, as well as saleswomen. The approximate number of women and the proportion they constitute of all workers in the more important types of establishments are as follows:

<i>Type of store</i>	<i>Approximate number</i>	<i>Percent of total</i>
Total	1, 001, 840	31
Department	206, 600	63
Apparel	149, 600	54
Food	100, 500	17
Variety	87, 300	86
Dry goods and merchandise	37, 600	64
Furniture and household	24, 700	19
Drugs	24, 400	20
Automotive	22, 000	6
General, with food	20, 300	27
Lumber, furniture, and hardware	14, 200	9
Filling stations	8, 500	5
Jewelry	6, 000	28

¹ Includes eating places; not possible to separate in sex table.

An increasing problem in store employment is the demand for part-time workers. Customers do not come and go evenly throughout the day but concentrate in certain peaks. A skeleton force is augmented by part-time workers for perhaps 2 or 3 hours in the middle of the day or for Saturday only.

Naturally, some women are glad of a part-time job, but many girls take such work because nothing better is offered. The change in the proportion of part-time employees in retail trade from 1929 to 1935

¹ U. S. Women's Bureau Bull. No. 172: The Woman Worker Today, by Elisabeth D. Benham, Washington, D. C.

as reported in the Census of Business is marked, both for all types of stores and for stores employing large numbers of women. Also, in 1935, a higher proportion of salespersons than of all employees were part-time workers. There was no report by occupation in 1929. The picture is as follows:

	<i>Percent of all employees who were part- time workers</i>		<i>Percent of salespersons who were part- time workers</i>
	1929	1935	1935
All stores -----	14	20	22
	=	=	=
Department stores-----	11	17	27
Variety stores-----	22	43	48
Women's ready-to-wear stores-----	14	20	24

Wholesale Trade

The 1935 census indicates that nearly 19 percent of all persons engaged in wholesale distribution are women, and that they numbered more than 255,000 in that year. Many of them are clerical workers, but large numbers pack, bottle, or put in other kinds of containers products purchased in bulk, such as tea or spices. Others may label packages. Here will be found the women who shell and sort pecans in San Antonio, walnuts in California, and peanuts in Virginia, wherever such work is done in warehouses. The handling of nuts in 1929 employed not far from 5,000 women. Virginia reports for 1935 showed 1,092 Negro women cleaning and shelling peanuts.

The following list shows the different types of wholesale establishments reported in 1935, with the approximate number of women employed:

Total -----	255, 699
Groceries-----	41, 700
Farm products-----	40, 800
Machinery and electrical goods-----	30, 200
Clothing, dry goods, and general merchandise-----	27, 400
Plumbing, heating equipment, hardware, and other metal goods-----	14, 200
Drugs-----	11, 000
Automotive-----	10, 600
Amusements and sporting goods-----	7, 000
Paper and its products-----	6, 900
Petroleum and its products-----	5, 600
Chemicals and paints-----	5, 500
Waste materials-----	5, 500
Beers, wines, and liquors-----	5, 500
Lumber and construction materials-----	5, 300
Furniture and house furnishings-----	4, 600
Jewelry and optical goods-----	3, 900
Tobacco and its products (except leaf)-----	2, 800
Coal and coke-----	2, 300

From 1929 there was a reduction of about 230,000 in the total number of employees reported, while the percent of women remained about the same. The coverage of the two censuses was not entirely the same, but there is no doubt that a considerable loss of employment opportunities occurred.

Employment of Women in the Federal Government ¹

Women constituted about 18 percent of all persons in Federal employment as of December 31, 1938, and numbered 145,535. Of these women, 56 percent were in clerical occupations, about 4 percent in professional work. The table following shows their distribution in occupational groups.

Distribution of Federal employees, Dec. 31, 1938, by occupation and sex

Occupational group	Total		Men		Women	
	Number	Percent	Number	Percent	Number	Percent
All occupational groups.....	808, 715	100. 0	663, 180	100. 0	145, 535	100. 0
Technical, scientific, and professional.....	74, 705	9. 2	68, 540	10. 3	6, 165	4. 2
Semitechnical, semiscientific, and semiprofessional.....	51, 990	6. 4	40, 465	6. 1	11, 525	7. 9
Postmasters and assistants.....	47, 000	5. 8	31, 400	4. 7	15, 600	10. 7
Managerial and administrative.....	36, 245	4. 5	30, 890	4. 7	5, 355	3. 7
Postal clerks and carriers.....	209, 000	25. 9	202, 600	30. 6	6, 400	4. 4
Clerical.....	148, 000	18. 3	66, 870	10. 1	81, 130	55. 3
Service.....	56, 720	7. 0	47, 795	7. 2	8, 925	6. 1
Trade and manual.....	185, 055	22. 9	174, 620	26. 3	10, 435	7. 2
Skilled.....	93, 150	11. 6	92, 545	14. 0	605	. 4
Semiskilled.....	47, 905	5. 9	40, 775	6. 1	7, 130	4. 0
Unskilled.....	44, 000	5. 4	41, 300	6. 2	2, 700	1. 9

It is not surprising that the largest groups of the women employed by the Federal Government were in occupations traditional for women. The following list includes all the specific occupations engaging more than 1,000 women:

	<i>Women employed</i>
Stenographers, typists, secretaries.....	45, 200
Postmistresses and assistants.....	15, 600
Postal clerks and carriers.....	6, 400
Nurses (graduate).....	5, 650
Attendants, hospital, other institution.....	4, 200
Printing and publishing occupations, n. e. c.....	3, 560
Building services (charwomen).....	3, 200
Office-appliance operators, n. e. c.....	2, 775
File, mail, and record clerks.....	2, 275
Agricultural extension agents (home economics).....	2, 250
Clothing-machine operators.....	1, 975
Teachers and instructors.....	1, 600
Accounting, fiscal and pay-roll clerks.....	1, 525
Home-management advisers.....	1, 475
Statistical, coding and research clerks.....	1, 400
Communications operators.....	1, 300

In 12 specific occupations half or more of the employees were women. The fact that women are a high proportion of those employed in an occupation does not necessarily indicate that the occupation offers extensive opportunities to numbers of women. Although more than one-half of the home economists, librarians, social and welfare workers, therapeutic workers, and laundry operatives were women, none of these occupations employed as many as 500 women. On the other

¹ U. S. Women's Bureau Bull. No. 182: Employment of Women in the Federal Government, by Janet M. Hooks.

hand, women were only 3.1 percent of post-office clerks and carriers, but there were over 6,000 women. The 15,600 woman postmasters and assistants were only one-third of total employees in these types of work. The occupations with a majority of women were as follows:

	<i>Percent women</i>
Technical, scientific, professional:	
Home economists-----	92.6
Librarians-----	60.0
Social and welfare workers-----	62.3
Semitechnical, semiscientific, semiprofessional:	
Home-management advisers-----	96.4
Nurses (graduate)-----	96.6
Therapeutic occupations-----	50.8
Clerical:	
Communications operators-----	76.5
Office-appliance operators-----	85.0
Stenographers, typists, secretaries-----	85.0
Semiskilled:	
Clothing-machine operators-----	88.8
Laundry workers-----	50.9
Printing and publishing occupations, n. e. c.-----	70.4

Figures on total Government employment from 1923 to 1939 show that the proportion of women advanced from 14.9 percent to 18.8 percent. This increase in the proportion of woman employees in the entire Federal service is due to the larger number employed outside the District of Columbia rather than to an influx of women into jobs at headquarters. There was even a slight decline in their status among Government employees in Washington.



Household Employment in New York State, 1938-39 ¹

An analysis made by the New York State Employment Service of the data on work registrations, placements, and cancelations of job openings received from the public employment offices, discloses the various phases of the problem of household employment in that State.²

In the State of New York, 85 percent of the persons classified as domestic workers in the 1930 census were women, and they comprised more than 17 percent of all gainfully employed women in the State. In recent years, however, there appears to have been a scarcity of well-trained domestics available for household employment, notwithstanding the great numbers of unemployed. Domestic employment is not an attractive occupation to young persons, not only because of the unfavorable hours, wages, and working conditions, but also because of the social stigma attached to it, the difficulty of maintaining family and social relationships because of the long hours, and the exclusion from the benefits of social insurance and such legislation as minimum wage and workmen's compensation.

During the year, July 1938 through June 1939, placements in domestic service made by the New York State Employment Service totaled 48,149. Less than two-fifths of these placements were "regular," that is, expected to last 1 month or longer. Almost every

¹ From the Monthly Labor Review for October 1940.

² New York. Department of Labor. Division of Placement and Unemployment Insurance. Placement and Unemployment Insurance Activities (Albany), December 1939.

kind of household employment was represented, but the largest group placed (24,083) consisted of day workers to do cleaning, washing, and ironing, the next largest (18,900) being general houseworkers. The largest number of day workers (16,000) were employed for cleaning, and among the general houseworkers who were placed, maids to do cooking were the most numerous (11,300). The demand for domestic workers was thus, for the most part, for general houseworkers and day workers for cleaning.

The number of placements was relatively large when compared with the number of applicants for household employment. Applications for domestic employment have decreased greatly in recent years.

In September and October 1939, only 17,034 applicants were registered, as compared with 51,185 in April 1936. Registration for domestic work is not mandatory, as such workers are not covered under the unemployment-insurance law. As the day workers placed usually obtain only temporary employment, they reregister at the termination of each placement and become available for employment again.

Reasons Why Some Openings Are Not Filled

During the 12-month period, July 1938-June 1939, 1,923 job orders were canceled, presumably because no qualified applicants were available. Sometimes, however, no attempt is made to fill jobs, because it would be impossible to interest job seekers in them. In other cases, even though applicants may be secured and referred, they may be rejected by the employer. The State Employment Service cites the following examples as typical of jobs where the pay offered was so small that applicants could not be interested:

A request for a maid in a private home, wages of about \$2 a week with housing and meals, and a workweek of 72 hours; a request for a maid also to do cooking and work 72 hours a week for \$4.50, including room and board; an order for a maid-cook at \$7 per week with housing and meals for a workweek of 60 hours; an opening for similar work offered a weekly wage of \$3, room and board, for a 72-hour week. A housekeeper turned down a live-in job paying \$3 for 54 hours a week; another refused a position at \$7 a week with meals only. A maid-cook rejected an offer of about \$6 with housing and meals for a 72-hour week.

Unsatisfactory living and working conditions which make it impossible to fill job openings for domestics often involve personal considerations, such as having to share a room with one of the family, a very large family making the job too hard, or the house being so large that the required work could not be done in the hours specified. The lack of regular hours of work and of quitting, in most live-in jobs, is a common cause of dissatisfaction.

In New York City over one-third of the cancelations of job openings in domestic employment were because the job was regarded as unsatisfactory. In nondomestic occupations the proportion of unfavorable jobs was only 12 percent.

Organized groups interested in this problem of household employment have tried or offered solutions of various types. These include: Establishment of wage and hour standards; education of the employer as regards standards and the correct attitude toward the worker and the occupation; public training schools for household workers; voluntary agreements between employer and employee;

unionization of the workers; inclusion of domestic workers under minimum-wage, social-insurance, and workmen's compensation legislation.



Employment of Women After Marriage

The subject of the employment of women after marriage was discussed especially during the years of depression. Married women constitute only a very small proportion of all employed persons—about 6 percent—though 22 percent of those in domestic and personal services are married. The earnings of married women often have proved to be a prime necessity to their families.¹ Community studies made during the depression showed almost universally that to dismiss married women in favor of jobless men would constitute scarcely a drop in the bucket in providing places for the unemployed, especially since their work differed from types for which the unemployed were fitted, and such a policy would but add to the hardships of additional families.²

Just over half of all single women but only a little more than a tenth of all married women are in gainful work. With the economic pressure for family funds, and with the present greatly accelerated industrial program, there is little doubt that these proportions will increase considerably.

Since it will be some time before final figures on employed married women and their occupations can be made available from the 1940 census, it is justifiable to use 1930 data. The differences in the occupational concentrations for single and married women are striking, and indicate that to a very considerable extent married women are at work from economic necessity.

The proportions of married and of single women in the various occupational groups in 1930 were:

	<i>Married women</i>	<i>Single women</i>
Total gainfully occupied-----	100.0	100.0
Domestic and personal-----	36.1	20.6
Manufacturing and mechanical-----	19.8	17.7
Clerical-----	11.8	26.1
Trade-----	11.1	8.0
Professional-----	9.6	19.4
Agricultural, etc-----	9.2	4.7

Policies of Industrial Companies on the Employment of Women After Marriage³

Because of the public interest in the employment of married women, the National Industrial Conference Board made a study of the prevailing practices of employers in 1939. The inquiry covered manufacturing and mercantile establishments, public utilities, banks, insurance

¹ See the discussion of woman workers and family support, pp. 971 to 976.

² Detailed findings of many such studies are cited in mimeographed material of the U. S. Women's Bureau.

³ Data are from National Industrial Conference Board, Inc., Conference Board Management Record (New York), October 1939, summarized in the Monthly Labor Review for January 1940.

companies, and brokerage houses, and especially those with a considerable proportion of woman employees. Both office and factory employees were covered. Information was received from 484 companies, with an aggregate of 1,150,646 employees.

Many companies which had adopted specific policies had done so not long before, and in such cases women already employed were frequently exempted from the application of the policy. Large organizations with units in different localities often find it impractical to adopt a fixed rule for universal application, as local circumstances and opinion frequently make it wise to have a flexible rule. The increasing number of agreements with labor organizations containing seniority provisions regulating lay-off and discharge also affects the situation. Generally, no distinction is made in such agreements as to married and single women, and therefore the management cannot terminate a woman's employment solely because she has married.

The number of companies surveyed which reported specific policies as to office and factory employees was as follows:

	<i>Office employees</i>	<i>Factory employees</i>
Number of companies with policy—		
Definite and fixed-----	198	117
Flexible-----	279	244
Number of companies where woman employee was—		
Encouraged to retain job-----	11	11
Permitted to retain job—		
Without restrictions-----	276	251
If husband not employed by company-----	23	16
Forbidden to retain job-----	111	38

Two-fifths (40.9 percent) of the companies reporting had a definite and fixed policy concerning woman office employees who married, as compared with 24.2 percent which had such a policy as regards factory workers. In practice, however, the policy was somewhat flexible as to both classes, ranging from an occasional deviation to treating each case according to the particular circumstances.

Practically 60 percent of the companies reporting had no restriction on woman office employees remaining in employment after marriage, and 54 percent of the companies had no such limitation as regards factory employees. Some companies made an exception if the husband was employed by the same company or in the same department or unit of the company. In some of these cases the woman's employment terminated automatically on her marriage, and in others either the wife or the husband might resign, at their option. Some companies had a rule that when reduction of the force became necessary, single women were to be preferred for retention in employment over married women with employed husbands.

A definite policy against retaining women in their employ after marriage seemed to be more common as regards office employees than in the case of factory workers. Practically 23 percent of the companies reporting forbade the retention of woman office employees after marriage, as compared with about 8 percent which had such a regulation concerning factory workers. As regards woman office employees, this policy was more customary in some types of business than others. Insurance companies apparently followed this practice quite generally, as 84 percent of the companies reporting

had a policy forbidding retention of woman office employees after marriage. Banks (65 percent) and public utilities (63 percent) generally had this policy also. On the other hand, only a small proportion of the manufacturing and mercantile establishments (14 and 11½ percent, respectively) followed this practice.

Companies which reported that a woman employee had to give up her job when she married did not, in all cases, require that she do so immediately. An equal number of companies reported, respectively, that she had to leave at once, and that she must leave within 1 month. Other companies allowed 3 months, and 6 months was not uncommon. Three companies allowed 1 year after marriage before a woman office employee had to resign.

Application for reemployment was permitted by a considerable number of companies if the woman became a widow or her husband became disabled and could not support her. Divorce or unemployment of the husband was considered by a smaller number of companies as a reason for such permission.

Although reemployment might mean reinstatement in regular employment, it might, on the other hand, be restricted to temporary employment. A few companies regarded former married-woman employees as a labor reserve which could be drawn upon for extra workers in rush or peak periods, the employment being only temporary.

Company Policies in Event of Childbirth

Where company policies allowed woman employees to retain their jobs after marriage, the practice in the event of anticipated childbirth varied. In the case of office employees, there was a fairly equal division in practice as to requiring resignation and allowing the employee to ask for a leave of absence. As regards factory workers, the reporting companies favored, 2 to 1, granting a leave of absence. In such case reemployment was not guaranteed, as a rule, but was dependent upon the need for additional workers at the time of the application.

The number of the companies reporting specified policies as to retention of married-woman employees in case of anticipated childbirth, are set forth in the following statement:

In event of pregnancy, woman employees retained after marriage—	Office employees	Factory employees
Must sever connection with company-----	143	81
May apply for leave of absence-----	135	164
Childbirth benefits granted—		
From mutual-benefit association or group insurance-----	41	43
From special company benefits-----	8	6

Benefits (of any kind) were rarely given in connection with childbirth, unless the employee was covered by group sickness insurance or belonged to a mutual-benefit association or a hospital association. There were a few exceptions to this general rule, one company paying 6 weeks' wages; another paid a benefit of \$20 to \$40, according to length of service, if the wife or husband belonged to the local association; and still another made a bank deposit in the name of the child. A few companies provided aid in needy cases.

WOMEN'S WAGES

Women's Wages in Selected Industries and States

The tables that follow give condensed data as to women's wages, and also their hours of work, from special field studies made by the Women's Bureau, United States Department of Labor, in recent years, and from pay rolls that employers have reported by sex to the Bureau of Labor Statistics. Certain of the field studies represent surveys of particular industries important in woman employment, in the chief centers of their operation; others show women's wages in the industries of particular States or territories in which studies were made. The data in table 3 indicate that workers in certain industries consistently tend to receive lower wages than those in other industries. The data in these tables apply to employees in manufacturing and service industries; data on women's earnings as clerical workers will be found on pages 967-968.

TABLE 1.—Earnings and hours of women in selected industries ¹

Industry and date of pay roll	Number ² of women wage earners reported	Percent working 40 hours or less in week reported	Average earnings per hour	Average earnings in week reported
Men's clothing, 1936:			<i>Cents</i>	
Dress shirts.....	13, 200	73	35. 6	\$13. 40
Knit underwear.....	13, 285	67	33. 4	12. 70
Seamless hosiery.....	20, 995	76	33. 3	11. 70
Work clothing.....	18, 870	69	34. 7	12. 55
Work shirts.....	3, 217	75	28. 0	9. 90
Woven cotton underwear.....	4, 385	45	28. 4	11. 40
Welt shoes.....	13, 151	64	42. 7	17. 10
Fruit and vegetable canning, 1933:				
Tomatoes and tomato products.....	19, 091	53	30. 8	9. 85
Corn.....	9, 258	42	27. 1	11. 50
Peas.....	6, 297	65	26. 1	9. 00
Green beans.....	7, 471	46	24. 2	9. 15
Spinach.....	4, 216	61	43. 7	15. 90
Asparagus.....	3, 490	71	43. 4	14. 95
Pork and beans.....	343	77	32. 8	8. 15
Sauerkraut.....	1, 157	32	30. 7	12. 70
Pickles.....	738	46	37. 5	14. 80
Large fruits.....	18, 966	50	45. 0	17. 85
Small fruits.....	2, 167	54	42. 8	15. 25
Jams, jellies, preserves, and fruit juices.....	600	65	37. 9	15. 35
Olives.....	962	58	39. 5	13. 50
Drugs, medicines, certain toilet preparations, 1933.....	6, 107	88	45. 6	17. 10

¹ Data from special field studies of the United States Women's Bureau.

² Total number of women wage earners reported in the study; differing numbers reported the various types of information. (A few studies also reported a smaller sample of men for comparative purposes.)

TABLE 2.—Earnings and hours of women in certain States and Territories ¹

State or Territory, industry, and date of pay roll	Number ¹ of women wage earners reported	Percent working 40 hours or less in week reported	Average earnings per hour	Average earnings in week reported
District of Columbia, 1937.....	11,349	(³)	<i>Cents</i> (³)	(³)
Manufacturing.....	530	53	34.0	\$13.35
Department stores.....	† 2,892	§ 10	36.7	16.60
Laundries.....	1,773	40	25.0	10.90
Dry cleaning.....	268	27	29.2	12.80
Restaurants.....	2,382	(⁶)	(³)	9.45
Hotels (lodging departments).....	507	(⁶)	(³)	11.50
Beauty shops: Store.....	89	(³)	(³)	19.65
Other.....	282	(³)	(³)	17.80
Office workers.....	1,776	14	(⁷)	16.65
Telephone service.....	1,600	100	56.0	22.03
Kentucky, 1937.....	21,819	53	(³)	(³)
Manufacturing.....	14,831	57	35.7	13.00
Clothing.....	3,633	58	30.6	11.50
Tobacco and its products.....	2,994	54	40.9	16.15
Textiles.....	2,316	68	35.5	11.60
Food products.....	1,137	37	30.6	12.05
Metal products.....	954	42	43.5	16.50
Distilled liquors.....	937	89	43.5	14.30
Leather products.....	466	(³)	35.5	13.65
Department stores.....	† 1,671	§ 7	30.0	13.70
Laundries.....	1,715	§ 31	20.8	9.10
Dry cleaning.....	196	§ 19	27.6	12.65
Restaurants: Independent.....	621	11	(³)	8.65
Store.....	145	65	(³)	9.15
Hotels.....	672	5	(³)	8.20
Maine, 1939.....	4,641	(³)	(³)	(³)
Department stores.....	† 688	§ 3	31.3	14.80
Laundry, dry cleaning.....	646	44	28.4	11.75
Restaurants: Independent.....	502	11	(³)	§ 6.75
Store.....	107	37	(³)	12.10
Hotels.....	590	21	(³)	¶ 6.45
Beauty shops: Portland.....	119	(³)	(³)	16.00
Other places.....	170	(³)	(³)	14.95
Michigan, 1941:				
Department stores.....	† 3,045	12	38.8	16.58
Restaurants.....	† 2,505	(³)	23.3	10.59
Nebraska, 1938:				
Manufacturing.....	2,108	68	39.0	14.90
Meat packing.....	714	80	49.9	19.30
Department stores.....	† 1,046	§ 7	33.0	14.80
Laundry, dry cleaning.....	600	§ 47	25.0	10.65
Restaurants: Store.....	323	(³)	(³)	9.55
Other.....	230	(³)	(³)	8.90
Hotels.....	474	(³)	(³)	8.80
Beauty parlors.....	125	(³)	(³)	15.45
Tennessee, 1935:				
White women:				
All industries.....	26,907	(³)	(³)	(³)
Manufacturing.....	19,991	83	32.3	12.00
Textile.....	10,362	91	30.4	(³)
Hosiery: Seamless.....	4,121	91	31.5	10.20
Full fashioned.....	1,805	94	37.0	13.40
Cotton mills.....	2,015	98	32.8	12.50
Knit underwear.....	1,448	90	32.4	12.10
Men's clothing.....	4,736	(³)	(³)	(³)
Work.....	3,073	75	25.8	9.55
Suits and overcoats.....	1,112	85	38.4	13.25
Rayon yarns, cellophane.....	1,194	87	42.0	16.60
Shoes.....	1,054	71	32.6	14.15
Food.....	665	87	28.3	11.35
Department stores.....	† 1,783	7	26.9	12.75
Laundries.....	429	40	17.4	7.85

See footnotes at end of table.

TABLE 2.—Earnings and hours of women in certain States and Territories¹—Continued

State or Territory, industry, and date of pay roll	Number ² of woman wage earners reported	Percent working 40 hours or less in week reported	Average earnings per hour	Average earnings in week reported
Tennessee, 1935—Continued.				
Negro women:				
All industries.....	2,718	(³)	(³)	(³)
Manufacturing ¹⁰	924	(³)	16.7	\$6.75
Department stores.....	11 50	(³)	26.0	12.35
Laundries.....	1,205	(³)	14.0	5.65
Dry cleaning.....		(³)		9.55
Hotel laundries.....	54	(³)	(³)	(³)
Hotels, restaurants.....	485	(³)	(³)	(³)
West Virginia, 1936.....				
Manufacturing.....	16,478	(³)	(³)	(³)
Textiles.....	12,544	69	34.5	12.70
Pottery.....	3,847	84	32.5	12.65
Metal products.....	2,051	62	38.0	14.90
Clothing.....	1,915	61	36.9	14.40
Women's wash dresses.....	944	37	28.6	11.80
Men's work.....	699	44	23.6	9.05
Tobacco, tobacco products.....	992	100	32.1	11.30
Glass: Bottles, containers.....	845	87	39.0	13.55
Tableware, novelties.....	615	70	30.0	11.85
Department stores.....	4 1,134	(³)	27.2	12.70
Laundries.....	582	(³)	23.0	11.50
Hotels and restaurants.....	804	(³)	(³)	8.50
Hawaii, 1939.....				
Pineapple canning ¹²	8,096	(³)	(³)	(³)
Department stores.....	5,975	⁵ 27	31.6	13.40
Power laundries.....	403	(³)	33.1	14.55
Restaurants.....	312	⁵ 7	20.4	9.60
Beauty shops.....	251	(³)	16.3	9.15
	92	(³)	(³)	16.15

¹ Data from special field investigations by the U. S. Women's Bureau.

² Total number of woman wage earners reported in study; differing numbers reported the various types of information. (A few studies also reported a smaller sample of men for comparison.)

³ Not reported.

⁴ Exclusive of regular part-time workers.

⁵ Under 40.

⁶ Variety of shifts make figures incomparable.

⁷ For the 3 largest groups, hourly rates were as follows: Stores, 36.7 cents; laundries, 37.5 cents; ready-to-wear shops, 40.0 cents.

⁸ Receiving no addition to wage.

⁹ Receiving meals only (these are largest numbers).

¹⁰ Largely nut shelling and wood products.

¹¹ Includes a few in limited-price stores.

¹² The only manufacturing industry having large numbers of women.

TABLE 3.—Average week's earnings of women in 23 important manufacturing industries in 12 large industrial States ¹

WEEK'S EARNINGS OF MORE THAN \$20

September 1937		September 1938		March 1940	
Industry	Amount	Industry	Amount	Industry	Amount
Dresses (except cotton)	\$20.16	Women's coats, suits	\$23.63	Women's coats, suits	\$23.77
		Dresses (except cotton)	23.04	Dresses (except cotton)	22.10
		Auto tires, tubes.....	21.43	Auto tires, tubes.....	20.84
				Electrical machinery..	20.62

¹ Analyzed by U. S. Women's Bureau, from reports made twice a year by employers to the Bureau of Labor Statistics in connection with its regular monthly pay-roll reports. States included were California, Connecticut, Illinois, Indiana, Massachusetts, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania.

TABLE 3.—Average week's earnings of women in 23 important manufacturing industries in 12 large industrial States—Continued

September 1937		September 1938		March 1940	
Industry	Amount	Industry	Amount	Industry	Amount
Electrical machinery...	\$19.35	Rubber boots, shoes...	\$18.13	Rubber boots, shoes...	\$19.43
Rubber boots, shoes.....	19.06	Radios, phonographs...	17.38	Men's suits, overcoats...	17.39
Auto tires, tubes.....	18.94	Electrical machinery...	16.92	Book and job printing...	17.25
Women's coats, suits.....	17.69	Hosiery.....	16.89	Radios, phonographs...	16.64
Radios, phonographs...	17.19	Book and job printing...	16.82	Hardware.....	16.00
Men's suits, overcoats...	17.12	Men's suits, overcoats...	16.07		
Hardware.....	16.54				
Book and job printing...	16.07				

WEEK'S EARNINGS OF \$14, UNDER \$16					
Hosiery.....	\$15.84	Confectionery.....	\$15.40	Women's undergarments, etc.	\$15.80
Confectionery.....	14.60	Glass, pottery.....	15.28	Hosiery.....	15.59
Paper boxes (set-up).....	14.48	Woolen, worsted.....	14.89	Glass, pottery.....	15.52
Glass, pottery.....	14.32	Women's undergarments, etc.	14.80	Woolen, worsted.....	14.89
Cigars, cigarettes.....	14.08	Hardware.....	14.79	Confectionery.....	14.86
		Paper boxes (set-up)...	14.32	Boots, shoes (leather)...	14.38
				Paper boxes (set-up)...	14.30
				Cigars.....	14.24
				Dresses, cotton.....	14.20
				Knit underwear.....	14.09

WEEK'S EARNINGS OF \$12, UNDER \$14					
Woolen, worsted goods...	\$13.59	Boots, shoes (leather)...	\$13.26	Men's cotton work clothes.	\$13.72
Women's undergarments, etc.	13.29	Silk, rayon goods.....	12.90	Cotton goods.....	13.35
Cotton goods.....	12.75	Knit underwear.....	12.87	Silk, rayon goods.....	13.05
Silk, rayon goods.....	12.22	Cotton goods.....	12.69		
Boots, shoes (leather)...	12.18	Cigars.....	12.49		
Men's cotton work clothes.	12.17	Men's cotton work clothes.	12.40		
Dresses, cotton.....	12.08	Dresses, cotton.....	12.02		
Knit underwear.....	11.56				

Season's Earnings of Women in Canneries ¹

Women who can the vegetables and fruits so widely used today often cannot expect to earn from such work more than a cash supplement to other income. Owing to the seasonal factor and the consequently short period during which jobs are available, the industry can furnish but few workers with a year's budget on a health and decency basis, according to a survey recently made by the Women's Bureau. In 1938 women comprised over 60 percent of the workers reported canning tomatoes, green beans, and large fruits, nearly 30 percent in pea canning, and just under half in corn canning. Women's chief occupations in canneries are in the preparation, the general factory, and the canning departments.

¹ Abstracted from the *Woman Worker*, March 1940.

Figures on length of the worker's employment and amount received for the season's work were compiled from the plants' records kept for Social Security purposes in 1937, which is considered the best recent canning year.

Of more than 170,000 employees reporting weeks worked in 1937 in the canning and dried-fruit-packing plants, 63 percent had less than 8 weeks' employment in any one plant; less than 5 percent had worked in the same plant as long as three-fourths of the year. A sample testing in California found that only 6 percent of the wage earners had had work in more than one cannery. Migrants may work in several seasonal-product canneries in several communities, this appearing to be more prevalent in California than elsewhere. However, with the height of the season in all but peas and asparagus coming in August, not many new people will be taken on in a plant when this peak is over.

The maximum number employed in one week by the 567 plants in the 13 important canning States included in the survey of 1938 was about 135,000. Just over a third of these were at work in California and well over a tenth in Indiana. In Maryland, Wisconsin, New York, and Indiana, three-fifths or more of the plants visited are in rural areas, that is, towns under 2,500. In California and Illinois only a fourth of the plants are in rural areas. Other States included are Iowa, Minnesota, New Jersey, Ohio, Pennsylvania, Virginia, and Washington.

Sixty percent of the nearly 190,000 workers reported to the Social Security Board had received less than \$100 for their season's work. Average earnings of those who had worked through the canning season of most usual duration were as follows:

<i>Weeks worked</i>	<i>Percent of workers</i>	<i>Average earnings for season</i>
Under 4 weeks.....	32.5	\$20.10
4, under 8 weeks.....	30.5	75.20
8, under 12 weeks.....	15.4	149.20

The varying amounts received by workers in different States, listed according to the numbers employed in this industry, are indicated in the following average earnings for the season:

<i>State</i>	<i>Under 4 weeks</i>	<i>4, under 8 weeks</i>
California.....	\$23.35	\$95.40
Indiana.....	15.90	64.05
Maryland.....	10.55	40.90
New York.....	20.15	73.80
Wisconsin.....	25.35	64.80
Washington.....	19.70	71.00
Illinois.....	18.55	76.80
Minnesota.....	23.80	78.45
New Jersey and Pennsylvania.....	19.15	59.40
Iowa.....	19.25	62.55
Ohio.....	18.25	61.85

Earnings of Office Workers

Clerical occupations employ more women than any other type of occupation. The following table shows, from reports of the Women's Bureau, the earnings of men and women in the plant offices of selected woman-employing manufacturing industries in 12 large industrial States, as of September 1937.¹

Earnings of men and women office workers in selected woman-employing industries, September 1937

Industry	Women reported		Average week's earnings	
	Number	Percent of all employees reported	Men	Women
Manufacturing—Selected industries:				
Textile industries:				
Knit goods	1,342	71.2	\$35.58	\$19.25
Woolen and worsted goods	1,000	53.9	37.60	22.35
Clothing industries:				
Men's clothing	1,296	69.2	36.48	19.89
Women's clothing	1,058	70.6	34.04	22.06
Food industries:				
Slaughtering and meat packing	1,678	31.8	44.35	27.36
Baking	1,251	59.4	33.20	20.69
Canning (fruit and vegetable)	1,024	55.9	32.20	22.50
Leather industries: Boots and shoes	1,417	76.0	32.22	17.75
Paper and printing industries:				
Printing and publishing:				
Book and job	4,553	55.5	43.34	22.10
Newspaper and periodical	6,180	43.9	40.06	21.89
Paper and pulp	1,030	45.3	42.17	24.42
Electrical industries:				
Electrical machinery, apparatus, supplies	8,052	37.4	42.98	25.19
Radio, phonographs	1,164	36.9	38.97	20.73
Metal industries:				
Foundries and machine shops	6,044	33.9	37.50	21.95
Hardware	1,207	55.9	35.32	18.94
Rubber goods: Auto tires	1,296	33.0	47.90	22.13
Wood industries: Furniture	1,502	46.9	40.11	21.06
Nonmanufacturing: Laundries	1,408	83.9	35.48	18.65

In industries surveyed in 1939 and 1940, the United States Bureau of Labor Statistics reported the following average weekly wages of workers in the offices of manufacturing plants:

	<i>Average week's earning of—</i>	
	<i>Men</i>	<i>Women</i>
Boots and shoes	\$21.92	\$15.60
Enameled utensils	25.01	15.90
Leather	24.98	16.61
Men's neckwear	21.47	15.57

Two States, New York and Ohio, have reported the earnings of clerical workers regularly over a considerable period of years. New York reports for October of every year the earnings of office employees in the manufacturing plants that report factory wages each month. Ohio's reports are for bookkeepers, stenographers, and office clerks, whether in factories or other types of establishments, and the

¹ From the Woman Worker for March 1938.

earnings are reported by the employer for the peak employment week of the year. The average weekly earnings of men and women working in offices in these two States were as follows:

Average weekly earnings of office workers in New York and Ohio, by sex and year

New York—Clerical workers in manufacturing plants			Ohio—Bookkeepers, stenographers, and office clerks in all industries		
Year	Average week's earnings		Year	Average week's earnings	
	Men	Women		Men	Women
1927.....	\$46.73	\$23.41	1927.....	\$38.20	\$22.30
1928.....	46.70	24.05	1928.....	38.45	22.35
1929.....	48.24	24.38	1929.....	38.55	22.40
1930.....	49.34	24.42	1930.....	38.50	22.40
1931.....	46.22	23.25	1931.....	36.75	21.35
1932.....	42.14	20.49	1932.....	33.15	19.30
1933.....	41.52	20.63	1933.....	31.20	18.35
1934.....	42.71	21.15	1934.....	32.05	18.55
1935.....	42.04	21.23	1935.....	32.75	18.80
1936.....	42.67	21.31	1936.....	33.60	18.95
1937.....	44.76	22.41	1937.....	35.40	19.75
1938.....	43.52	22.23			
1939.....	45.90	22.98			
1940.....	45.25	22.88			



Comparison of Women's and Men's Wages ¹

On the whole, women's occupations differ from men's, and the wages in women's jobs almost invariably are at a lower level than those of men. Even where the two sexes are employed in the same industries the levels of women's wages are much below those of men.

Indeed, it is remarkable that this difference is so universal, both in extent and in degree, no matter what the year, the locality, or the type of occupation. Despite the fact that women generally are found in semiskilled processes, in work that often requires considerable dexterity and care, while unskilled jobs ordinarily employ men, even in such a comparison women's wage rates are well below those of the unskilled men.

This arises partly from the fact that women so often are used as a fill-in labor supply for highly seasonal industries; partly from the fact that women's work, formerly concerned so largely with unpaid household tasks, traditionally has been considered of low money value; partly from the fact that women form large proportions of the workers in the great piece-work industries, and piece rates for such jobs often are fixed on the old customary basis of considering women's work as of slight money value.

Reports on the comparative earnings of men and women in important woman-employing industries are made from time to time by the United States Women's Bureau. These reports are based on

¹ Material taken from the following sources: Analysis by the Women's Bureau of pay-roll data reported twice a year by employers to the Bureau of Labor Statistics in connection with its regular pay-roll reporting, combined with further data brought to date: The Monthly Labor Review, September 1940 and April 1941; U. S. Women's Bureau Bull. No. 155. Data on men's and women's wages in clerical occupations will be found on p. 967.

analyses of the employment and pay-roll records received twice a year by the Bureau of Labor Statistics from many thousand employers in connection with its regular pay-roll reporting. The report for March 1940 was derived from employment and pay-roll records for over 372,000 women in 22 large woman-employing manufacturing industries and for nearly 27,000 women in laundries and dyeing and cleaning plants. The reporting firms employed nearly two-thirds of the women in manufacturing. The 12 States covered by the reports² are leading manufacturing States, employing about three-fourths of all the women in manufacturing.

Women had higher average hourly earnings in March 1940 than in March of the preceding year in nearly all of the more important woman-employing manufacturing industries. The 30-cent minimum prescribed by the Fair Labor Standards Act no doubt had its influence in raising the averages. Women had an increase of 10 percent in average hourly earnings in the cotton-dress industry and of 6 percent in the cotton-goods, candy, women's undergarments, rubber boots and shoes, and hosiery industries. Employment of women in manufacturing industries increased 2 percent from the spring of 1939 to the spring of 1940, and in some of the industries important to the defense program there was a greater increase.

In every industry reported, women had lower earnings than men, and in half of these industries women's average hourly earnings were less than the lowest average for men, which was 43.8 cents in the cotton industry. Women's average weekly earnings were less than \$15 in practically half of the reported industries, their lowest average being \$13.05 in silk and rayon mills. The lowest weekly average for men was \$16.05 in cotton mills.

Women's hours were slightly less than those of men, usually averaging less than 40 a week, and less than 35 in half of the industries covered. Men averaged less than 40 hours a week in most industries and less than 35 in a few.

Table 1 shows average hours and earnings of men and women in the large woman-employing industries in the 12 States in March 1940.

TABLE 1.—Average hours and average hourly and weekly earnings in selected industries in March 1940, by sex

[From reports by employers. Preliminary figures]

Industry	Women reported		Average week's earnings		Average hours worked ¹		Average hourly earnings ¹	
	Number	Percent of all reported employees	Men	Women	Men	Women	Men	Women
<i>Manufacturing</i>								
Textile industries.....	103,920	48	\$19.81	\$14.15	36.2	33.0	<i>Cents</i> 55.0	<i>Cents</i> 43.1
Cotton goods.....	26,828	38	16.05	13.35	36.6	34.1	43.8	39.1
Knit goods.....	38,179	64	25.64	15.22	36.3	33.3	71.0	46.0
Hosiery.....	23,081	57	26.14	15.59	35.8	32.5	73.0	48.2
Underwear.....	15,098	76	22.08	14.09	39.8	35.7	56.7	39.5
Silk and rayon.....	22,812	52	19.04	13.05	37.3	33.0	51.4	39.7
Woolen and worsted.....	16,101	40	21.81	14.89	34.7	30.9	62.9	48.4

¹ Computed from smaller number of employees than total, since man-hours not reported for all.

² California, Connecticut, Illinois, Indiana, Massachusetts, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, and Pennsylvania.

TABLE 1.—Average hours and average hourly and weekly earnings in selected industries in March 1940, by sex—Continued

Industry	Women reported		Average week's earnings		Average hours worked		Average hourly earnings	
	Number	Percent of all reported employees	Men	Women	Men	Women	Men	Women
<i>Manufacturing—Continued</i>								
Clothing industries.....	115,840	72	\$32.29	\$17.14	35.1	33.8	Cents 93.5	Cents 51.1
Men's clothing.....	65,666	68	28.55	15.56	36.0	34.4	79.4	45.2
Suits and overcoats, etc.....	27,119	54	29.82	17.39	35.4	33.9	83.9	51.2
Cotton; work; shirts and collars.....	38,547	83	22.82	13.72	38.7	34.8	59.1	39.2
Women's clothing.....	50,174	77	37.66	18.70	33.8	33.2	113.6	56.9
Undergarments, etc.....	17,514	87	30.70	15.80	37.3	34.0	80.4	45.8
Coats and suits.....	3,954	38	41.32	23.77	31.5	30.3	136.6	82.8
Dresses, cotton.....	12,663	92	27.30	14.20	39.8	35.7	69.3	38.3
Dresses, other.....	16,043	77	38.34	22.10	33.7	32.1	110.6	69.2
Food industries: Confectionery.....	13,991	57	25.10	14.86	39.9	34.5	62.7	42.8
Leather industries: Boots and shoes.....	29,190	47	21.92	14.38	35.2	34.3	61.3	42.0
Tobacco industries: Cigars.....	14,096	85	22.40	14.24	38.8	34.3	57.5	41.6
Paper and printing:								
Book and job.....	13,400	24	35.22	17.25	38.8	35.7	91.6	49.2
Paper boxes (set-up).....	6,718	62	23.74	14.30	39.7	35.5	60.0	40.1
Electrical industries:								
Electrical machinery and supplies.....	37,600	23	33.32	20.62	40.4	38.0	82.4	54.7
Radios and phonographs.....	13,676	48	28.25	16.64	38.0	33.2	74.5	50.3
Metal industries: Hardware.....	5,787	26	25.29	16.00	38.9	36.3	65.1	44.2
Rubber goods:								
Auto tires and tubes.....	3,389	15	34.54	20.84	33.9	31.1	102.9	67.6
Boots and shoes.....	4,892	51	28.45	19.43	38.9	37.5	73.3	51.9
Glass and pottery.....	9,735	20	27.82	15.52	37.1	35.0	75.9	44.6
<i>Nonmanufacturing</i>								
Laundries.....	23,549	66	28.43	14.68	46.4	39.9	60.8	36.8
Dyeing and cleaning.....	3,368	47	26.44	16.58	43.7	40.5	61.6	41.2

TABLE 2.—Average hourly earnings of men and women in selected industries, 12 States, 1937-40¹

Industry	Men						Women						
	1937		1938		1939		1937		1938		1939		1940
	September	March	September	March	September	March	September	March	September	March	September	March	
<i>Manufacturing</i>													
Textile industries.....	Cts. 60.4	Cts. 59.1	Cts. 54.0	Cts. 53.3	Cts. 52.8	Cts. 55.0	Cts. 44.6	Cts. 42.6	Cts. 41.1	Cts. 40.5	Cts. 40.9	Cts. 43.1	
Cotton goods.....	47.2	45.7	43.1	42.5	42.0	43.8	39.5	37.6	36.9	36.5	37.1	39.1	
Knit goods.....	71.1	69.4	75.5	71.7	71.1	71.0	44.4	44.2	45.7	43.6	43.1	46.0	
Hosiery.....	78.8	73.2	78.0	73.9	73.2	73.0	46.8	45.7	48.1	45.4	44.8	48.2	
Underwear.....	54.2	57.8	57.4	55.9	55.7	56.7	38.2	39.9	38.6	38.2	37.9	39.5	
Silk and rayon.....	52.7	50.9	51.4	49.3	49.7	51.4	37.8	37.9	38.0	37.2	37.2	39.7	
Woolen and worsted.....	63.7	65.6	58.7	59.2	58.1	62.9	51.9	49.7	45.9	45.7	48.0	48.4	
Clothing industries.....	93.8	90.0	94.6	96.4	94.6	93.5	54.7	49.6	51.0	50.7	51.2	51.1	
Men's clothing.....	95.3	79.6	81.7	80.6	82.5	79.4	56.6	44.2	44.3	44.5	45.8	45.2	
Suits, overcoats, etc.....	99.4	88.5	87.0	85.5	87.6	83.9	62.9	53.1	52.2	60.5	52.9	51.2	
Cotton; work; shirts and collars.....			59.0	58.6	59.4	59.1			36.8	38.5	38.7	39.2	

¹ Prepared by U. S. Women's Bureau from reports made twice a year by employers to the U. S. Bureau of Labor Statistics in connection with its regular monthly pay-roll reports.

TABLE 2.—Average hourly earnings of men and women in selected industries, 12 States, 1937-40—Continued

Industry	Men						Women									
	1937		1938		1939		1940		1937		1938		1939		1940	
	September	March	September	March	September	March	September	March	September	March	September	March	September	March	September	March
<i>Manufacturing—Continued</i>																
Clothing industries—Continued.	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>	<i>Cts.</i>
Women's clothing.....	100.3	106.5	116.5	119.0	111.9	113.6	62.7	56.5	57.6	56.9	56.5	56.9	56.9	56.9	56.9	56.9
Undergarments, etc.....	74.6	75.3	71.6	77.7	72.6	80.4	44.6	42.2	40.2	41.2	41.4	41.4	41.4	41.4	41.4	41.4
Coats and suits.....	125.6	145.3	141.7	149.2	135.7	136.6	72.8	94.0	86.7	94.7	84.7	82.8	82.8	82.8	82.8	82.8
Dresses, cotton.....	59.8	60.8	63.0	64.2	67.2	69.3	35.4	35.5	35.5	35.5	36.0	38.3	38.3	38.3	38.3	38.3
Dresses, other.....	113.2	112.0	109.2	113.6	110.7	110.6	74.5	69.5	73.8	71.9	72.5	69.2	69.2	69.2	69.2	69.2
Food industries: Confectionery.....	57.1	60.9	59.9	60.7	62.0	62.7	38.0	39.7	39.6	39.6	41.2	42.8	42.8	42.8	42.8	42.8
Leather industries: Boots and shoes.....	60.6	62.8	60.6	61.3	60.3	61.3	42.1	40.8	40.1	40.8	40.5	42.0	42.0	42.0	42.0	42.0
Tobacco industries: Cigars.....	52.6	52.9	49.8	52.4	52.4	57.5	41.6	40.3	36.8	37.0	38.7	41.6	41.6	41.6	41.6	41.6
Paper and printing:																
Book and job.....	86.8	89.6	89.9	90.9	91.3	91.6	46.8	49.7	48.8	48.7	47.7	49.2	49.2	49.2	49.2	49.2
Paper boxes (set-up).....	58.6	60.8	59.1	59.1	58.1	60.0	39.2	39.8	37.8	39.9	39.5	40.1	40.1	40.1	40.1	40.1
Electrical industries:																
Electrical machinery and supplies.....	75.7	78.6	77.8	81.9	79.9	82.4	51.4	52.6	50.1	53.0	53.0	54.7	54.7	54.7	54.7	54.7
Radios and phonographs.....	55.2	68.0	70.5	72.5	71.3	74.5	42.9	43.1	48.4	46.8	49.3	50.3	50.3	50.3	50.3	50.3
Metal industries: Hardware.....	67.9	69.4	68.0	72.3	76.1	65.1	47.6	47.8	43.6	53.5	57.2	44.2	44.2	44.2	44.2	44.2
Rubber goods:																
Auto tires and tubes.....	106.5	104.4	101.8	106.0	105.2	102.9	71.7	69.5	68.6	72.2	70.5	67.6	67.6	67.6	67.6	67.6
Boots and shoes.....	73.7	69.6	66.6	58.8	72.3	73.3	50.2	48.0	49.6	41.9	51.3	51.9	51.9	51.9	51.9	51.9
Glass and pottery.....	68.4	72.3	74.3	74.2	74.8	75.9	40.2	43.8	45.9	45.4	46.2	44.6	44.6	44.6	44.6	44.6
<i>Nonmanufacturing</i>																
Laundries.....	58.8	59.9	60.8	59.2	61.8	60.8	34.2	35.1	37.2	36.0	36.0	36.8	36.8	36.8	36.8	36.8
Dyeing and cleaning.....	61.7	58.4	62.7	58.1	60.9	61.6	39.9	39.0	41.8	41.2	42.9	41.3	41.3	41.3	41.3	41.3

² Including cigarettes.



RESPONSIBILITY OF EMPLOYED WOMEN FOR SUPPORT OF OTHERS ¹

While there are employed women as well as employed men who are not responsible for the support of others, very many women at work have persons dependent upon them for a livelihood. These may be children of their own or of others; young sisters or brothers; parents or other elderly relatives; husbands ill or unable to get jobs. Information on the extent to which this is the case is scattering, but

¹From U. S. Women's Bureau Bull. No. 155: Women in the Economy of the United States, by Mary Elizabeth Pidgeon, Washington, 1937; Bull. No. 183: Women Workers and Their Family Environment, Washington, 1940; Woman Worker for March 1941 and May 1941.

the Women's Bureau has analyzed findings of more than 70 studies made from time to time and affording such data.²

These indicate that the responsibilities of women as contributors to the family exchequer are considerably larger than many persons have realized. Probably more than one-tenth of the employed women in the United States are the entire support of families of two or more persons, in many cases of those that are much larger. Large numbers of these are single women; many are married; they are engaged in industrial, professional, clerical, domestic and personal, and other types of employment.

A very large body of women in addition to those who are the sole family wage earners are supporting dependents, either wholly or in part, and many of these are fully responsible for the support of some persons and have partial dependents as well.

Many employed women contribute all their earnings, and a very large proportion turn over at least half of what they make, for the family expenses.

Of the family heads in the United States one-tenth are women. This number is a minimum when extent of responsibility is considered, since the census enumerators normally report a man as the family head wherever possible to do so.

The following pages show more detailed data on this subject from two recent sampling studies made by the Women's Bureau, one a field survey and one from census material, and from the Bureau of Labor Statistics Consumer Purchases study of over 130,000 families.

Woman Workers and Family Finances

The single daughter living at home is numerically the most important among woman wage earners. So reports a Women's Bureau study of about 6,000 women in two widely diverse localities—Cleveland, Ohio, whose industrial structure affords broad opportunities for women in commerce, manufactures, and all the professions and services, and the State of Utah, where an agricultural and mining economy limits women's opportunities chiefly to the professions and services found in every community.³ The picture of personal and family demands afforded by this survey was obtained by interviews with the working women themselves. Only households with women at work or seeking work were covered.

The importance of women's earnings to the family exchequer is strikingly shown. Almost four-fifths of all the families visited live entirely on the earnings of their members. Women's earnings constitute the entire support of well over a third of the families of two or more persons. In nearly one-fifth, women contribute half or more, though not all, of the total income. In only 3½ percent of the instances do women keep their earnings entirely for their own needs. When unmarried sons and daughters in the same family work, more daughters than sons give all their earnings to the family, and more daughters contribute large proportions of their salaries,

² For details as to earlier studies, see U. S. Women's Bureau Bull. No. 155, p. 79.

³ U. S. Women's Bureau Bull. No. 183. Washington, 1940.

though they usually earn less than sons. In Cleveland the month's earnings of daughters average \$75, their contributions average \$40; son's earnings average \$86 in the month, their contributions \$37. The corresponding averages for Utah are respectively \$77 and \$27 for daughters, \$72 and \$19 for sons.

The wife or mother is a wage earner in about a third of the Cleveland and in one-half of the Utah families. When the wife or mother is at work as well as the husband or father, in 60 percent or more of the families her contributions are from a fourth to a half of the family income.

Women living apart from their families constitute a fifth of all those studied. For a wholesome life, a woman living alone needs a minimum of \$84 in Utah, but more in a city the size of Cleveland. About three in eight of these women send money regularly to their families, though their earnings average \$96 a month in Utah and \$103 in Cleveland.



Woman Workers and Family Support ¹

About one-tenth of the women in gainful work are the sole support of their families. This was shown by a study, made by the United States Women's Bureau, of the original schedules of three cities from the 1930 United States Census of Occupations.² The study covered more than 58,000 women 16 years of age and over, in Fort Wayne, Ind., Bridgeport, Conn., and Richmond, Va. These cities are widely scattered geographically, their industries are of a varied character, and considerable proportions of their women were in gainful employment at the time of the census. They were, in consequence, considered to be representative of urban districts throughout the country. Gainfully employed women represented 29.6 percent of all the women in Fort Wayne, 32.7 percent of those in Bridgeport, 38.8 percent of those in Richmond, and 25.3 percent of those in the United States.

Occupations of Women

The women in each city were employed in a variety of occupations. In Fort Wayne, over half of the 13,000 gainfully employed women were in manufacturing (principally in electrical-supply and clothing factories and knitting mills) and in clerical occupations. Three-fifths of the 17,000 working women of Bridgeport, Conn., were also in these two occupational groups, the factories in which women were employed manufacturing clothing, electrical machinery and supplies, iron and steel, machinery and vehicles, and chemical and allied products. In Richmond, Va., although over two-fifths

¹ Abstract of article by Mary E. Pidgeon and Margaret T. Mettert, U. S. Women's Bureau, in the *Monthly Labor Review* for January 1940.

² Published as U. S. Women's Bureau Bull. No. 168 (*Employed Women and Family Support*), Washington, 1939.

of the 28,143 woman workers were employed in manufacturing (mainly cigar and tobacco factories) and in clerical occupations, the largest single occupational group was in domestic and personal service.

The proportions of the working women in each city in the various occupational groups are shown in table 1.

TABLE 1.—Percent of gainfully employed women in specified occupational groups, by city

Occupational group	Fort Wayne, Ind.	Bridgeport, Conn.	Richmond, Va.
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Manufacturing	28.0	36.4	21.8
Clerical occupations	25.6	23.7	20.6
Domestic and personal service	18.4	15.2	30.1
Managerial and professional service	13.0	12.4	11.9
Selling trades	10.8	8.1	7.0
Working in own home	2.4	1.5	5.8
Telephone and telegraph operators	1.4	2.1	2.4
Not elsewhere classified .....	.4	.6	.4
Total	100.0	100.0	100.0
Number of women	12,897	17,066	28,143

Family Responsibilities of Working Women

In a considerable proportion of the families of the gainfully employed women in the three cities studied, the women furnished the entire support of the family. About a sixth of such families in Fort Wayne and in Bridgeport, and over a fifth in Richmond, had no male wage earners. Women who were the sole support of their families in Fort Wayne comprised 10.5 percent of all the working women in that city. In Bridgeport the proportion was 10.3 percent, and in Richmond, 13.9 percent.

Single women constituted the largest group of working women in each of these cities, but there were large numbers of married and widowed and divorced women in gainful employment. Over half of the single women lived with one or both parents, but in many cases this indicated an increase in responsibilities rather than the use of their wages solely for personal adornment or pin money. One in every 14 of these single women was the only support of her parents. In many cases there were also dependent small children in the family.

Married women, also, though not as likely to be responsible for the entire support of households, were in many cases supporting fairly large families, which often included young children. This was especially true of Negro women. A larger proportion of the widowed and divorced women were responsible for the full support of the family. About 3 in 10 of these working women in Richmond and Bridgeport and 1 in 4 in Fort Wayne were the sole support of their families.

The family responsibilities of working women in Fort Wayne, Bridgeport, and Richmond are indicated by the data in table 2.

TABLE 2.—Family status of gainfully employed women in three cities

Family status	Fort Wayne, Ind.		Bridgeport, Conn.		Richmond, Va.	
	Number	Per- cent	Number	Per- cent	Number	Per- cent
<i>Single women</i>						
All gainfully employed.....	7,586		10,996		13,776	
In families of 2 or more persons.....	4,807	¹ 63.4	8,920	¹ 81.1	8,850	¹ 64.2
With no male wage earners.....	1,035	² 21.5	1,461	² 16.4	2,289	² 25.9
Sole support of family.....	398	³ 8.3	556	³ 6.2	738	³ 8.3
Living with parent or parents.....	3,666	⁴ 76.3	7,663	⁴ 86.0	6,186	⁴ 69.9
Parents not gainfully employed.....	994	⁵ 27.1	1,887	⁵ 24.6	1,840	⁵ 29.7
Not in families—living alone, boarding, or living with employer.....	2,779		2,076		4,926	
<i>Married women</i>						
All gainfully occupied ⁶	3,469		4,231		9,079	
In families of 2 or more persons ⁶	3,163	⁶ 91.2	3,890	⁶ 91.9	7,822	⁶ 86.2
With no male wage earners.....	122	⁷ 3.9	319	⁷ 8.2	703	⁷ 9.0
Sole support of families.....	95		236		465	
With children under 10.....	34		110		233	
Living with husband.....	2,989		3,420		7,325	
Husband gainfully employed.....	2,913		3,335		7,101	
Husband not gainfully employed.....	76		85		224	
Married women not in families—living alone, boarding, or living with employer.....	306		341		1,257	
<i>Widowed and divorced women</i>						
All gainfully occupied.....	1,828		1,811		5,274	
In families of 2 or more persons.....	1,111	⁸ 60.8	1,186	⁸ 65.5	3,226	⁸ 61.2
With no male wage earner.....	472	⁹ 42.5	567	⁹ 47.8	1,671	⁹ 51.8
Sole support.....	285		338		963	
With children under 10.....	108		107		428	
Not in families—living alone, boarding, or living with employer.....	717		625		2,048	

¹ Percent of all single women.² Percent of all single women in families.³ Percent of all living with parents.⁴ Includes separated women.⁵ Excludes women living alone, boarding, or living with employer, except those with dependent children.⁶ Percent of all married women.⁷ Percent of all married women in families.⁸ Percent of all widowed and divorced women.⁹ Percent of all widowed and divorced women in families.

Nativity and Race of Working Women

Native white women predominated in the two northern cities, though in Bridgeport over a fifth of the working women were foreign-born. Two of every five working women in Richmond were Negroes. In Fort Wayne the proportion of native white women among the woman workers was 95.1 percent; in Bridgeport, 75.5 percent; and in Richmond, 58.7 percent. This compares with 71.6 percent for the United States.

Gainfully Employed Homemakers

One-third of the 58,000 working women in the three cities covered in the study were homemakers who combined the duties and responsibilities of that position with the job of wage earner. The majority of these homemakers (over nine-tenths) were in jobs which took them away from their homes. In the northern cities they worked for the most part in factories, and in Richmond they were employed largely as domestic servants in private homes.

In approximately one-fifth (19.6 percent) of the families (2 or more persons) of the homemakers in Bridgeport there were no male wage earners, and in about one-eighth (12.7 percent) of such families the homemaker was the only wage earner. In Fort Wayne the corresponding proportions were 16.3 and 10.2 percent and in Richmond 22.9 and 14.1 percent, respectively.

A considerable proportion of these employed homemakers had young children in their families. In Fort Wayne 20.5 percent of the gainfully employed homemakers had children under 10 years of age in their households. In Bridgeport the percentage was 24.4, and in Richmond, 27.7. For the United States the percentage was 29.6.

Much of the difference between Richmond and the two northern cities, as regards occupational distribution and family responsibilities of employed homemakers, was due to the racial composition of the population of the cities. In Richmond about 6 in every 10 (57.6 percent) of the families of employed homemakers were Negro. In Fort Wayne only 3.3 percent, and in Bridgeport 4.9 percent, of such homemakers' families were Negro. Almost one-fourth of the families of the Negro homemakers in Richmond contained 5 or more persons.



Women's Contribution to Family Support ¹

In each city reported in the Consumer Purchases study, the most usual family was one not on relief, with husband and wife both present (the "complete family"), and both of them white and native-born. It is with these families that most of the report is concerned.

Complete Families

Of all employed women reported in the 131,000 families, 21 percent (5,500) were principal earners; almost 3,300 of these chief earners were wives. Women principal earners were concentrated most largely in families in the clerical field, while men who were principal earners were more often in wage-earning families. The "principal wage earner" is defined as the one member bringing in the largest sum to buy the daily bread (not necessarily the customary "head" of the family).

It is not surprising that where a woman was the principal earner the family income was lower than where a man brought in the chief pay, since women's earnings usually are considerably below men's. Almost three-fourths of such families were living on less than \$2,000, more than a fourth of them on less than \$1,000.

More than three-fourths of the families had only one earner. Though in most cases this was the husband, in about 1,600 families a woman—in nearly 1,000 the wife and in over 600 some other female member—furnished the sole support. More than 90 percent of the families supported entirely by the wife were living on less than \$2,000, about 60 percent of them on less than \$1,000.

Others besides the chief earner contributed to the income in nearly a fourth of the families reported. These supplementary earners were found in a larger proportion of the wage earners' and clerical workers'

¹ Analysis by the U. S. Women's Bureau from the Consumer Purchases study by the U. S. Bureau of Labor Statistics (see *The Woman Worker for March 1941*).

families than of those in business and the professions. Just over half of them were women. The wife was a supplementary earner in nearly 11,500 families, more than a third of all that had additional wage earners. Over three-fifths of the families in which the wife added to the family earnings had less than \$2,000 in the year; more than one-eighth lived on less than \$1,000.

It is of interest to note the extent to which the wife was at work in relation to size of family. The studies contain data for a number of family types in 5 cities with a population of more and in 20 cities with a population of less than 20,000. Where there were one or two children and no other family member but husband and wife, only 8 percent of the wives were at work, one-fifth as principal earners. In larger families, with an older child or children or other adult member, a slightly larger proportion of the wives were in gainful work—9 percent. In the families with only man and wife, the wife was either principal or supplementary wage earner in 18 percent of the cases, and it is significant that well over a fourth of these working wives were the principal wage earners in their families.

The extent to which a woman was either the sole or the principal earner differed very little according to the size of the city.

Incomplete Families

Little detail is given regarding the incomplete families, those lacking either the husband or the wife or both, though it is in these that a woman's contribution is often the greatest. A woman was the principal wage earner in the following proportions of the incomplete families² reported:

	Percent
Chicago.....	54
Pacific coast.....	33-50
East central.....	41-60
Southern—White.....	40-74
Negro.....	67-78

Of these woman principal wage earners reported in Chicago, three-fourths were in incomplete families, as were 61 to 77 percent of those of such white families and 81 to 86 percent of such Negro families in five southern cities.



OCCUPATIONAL DISEASES AMONG WOMEN

Occupational Diseases Among Women, 1935 to 1938³

Women are more likely than men to be seriously affected by some poisons, and certain of these are used to a considerable extent in connection with various processes well adapted to women's abilities. The need for constant study of materials and substances, especially where newly used, cannot be too strongly stressed. The following are dangerous to women's health:

Benzene, which may dispose to hemorrhage. This is used in explosives plants, in airplane factories in doping the wings, in rubber factories, and in shoe and some metal plants.

² These include some one-person families.

³ Abstracted from U. S. Women's Bureau Bull. No. 184: The Occurrence and Prevention of Occupational Diseases Among Women, by Margaret T. Mettert; Special Bull. No. 1; Woman Worker for March 1940.

Carbon disulphide, which is used in rubber and artificial silk manufacture. The dangers of this powerful poison seem to be more recently understood; it attacks the nervous system, producing a result similar to insanity. This serious hazard can be controlled by good workroom ventilation, together with adequate local exhaust.

Lead, used in rubber and storage-battery plants and in spray painting, as, for example, in automobile plants. It is perhaps one of the most common poisons in use in modern industry. While in some industries the hazard has been practically eliminated, other industries, plants, or processes develop its use.

Mercury, which is used in chemical plants, in photographic supplies, by browners on guns.

Arsenic, which is used in chemical plants, by electroplaters, and by workers on enamel and on rubber.

Silica dust, which is produced by grinding and polishing machines on which women work, and which unless it is entirely removed from the air produces an incurable lung disease.

Exhaust systems are absolutely necessary to prevent the air from carrying to the worker the fumes from the poisons just listed, and from many other acids or chemicals such as mercury, wood alcohol, ammonia, and so forth; from gases such as carbon monoxide; and from dusts such as that caused by silica. Individual respirators often are needed where the process brings the worker near to such fumes and gases. All equipment should be inspected frequently to make sure that it is not worn or leaking so that it no longer protects. Furthermore, individual respirators often are not sufficient to take the place of adequate exhaust systems, and in the case of some substances, such as silica dust, it is absolutely necessary to have this removed from the air at its source by proper exhausts or by effective wet methods.

Where lead is used, the worker must be protected by exhaust systems, and, depending on the process, by gloves and by individual respirators as well, and there must also be provision for frequent washing of hands and other exposed parts of the body. Food should never be eaten in the workroom where such poisons are used.

No easy panacea exists for protecting workers from all poisons. There must be continual study of the use of new substances, the methods of their use, and the employment of better-known materials in new processes. For the substances that have been long in use in industry, protective measures are known.²

New processes are constantly developed and these may mean introducing new substances whose effects are less well known.

Number of Women Affected

Nine State agencies furnished information to the United States Women's Bureau, as to the numbers of women injured by occupational diseases in the 4 years 1935 to 1938 or some part of that period. In three States reports were from State health departments, in four they were from compensation authorities, in two from divisions of the State labor department. The States are these:

Connecticut.	Michigan.	New York.
Illinois.	Minnesota.	Ohio.
Massachusetts.	Missouri.	Wisconsin.

² The United States Department of Labor publishes small pamphlets telling of the effects of certain industrial poisons and giving suggestions as to their prevention.

In the most recent year reported, women's proportion was greater among the occupational-disease cases than among all manufacturing employees in four of the seven States for which such information is available, as is clear from the following summary. In every State, however, women's proportion was less among disease cases than among workers in all occupations taken together.

	Percent women comprised in—		
	Disease cases	Manuf-acturing occu-pations	All occu-pations
Connecticut	15	18	26
Illinois.....	16	12	22
Massachusetts.....	21	21	29
Michigan.....	3	7	19
New York.....	21	16	26
Ohio.....	20	10	21
Wisconsin.....	16	11	19

The numbers reported, and shown in the table following, reflect State differences in compensation laws and in the recognition of various diseases as occupational, as well as employment differences.

Occupational-disease cases of men and women according to industry, 6 States, 1935 to 1938 ¹

Industry	Connecticut (1935-38, 4 years)				Massachusetts (1935-37, 3 years)				Minnesota ² (1935-38, 4 years)	
	Men		Women		Men		Women		Women	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Total reporting.....	1,237	100.0	176	100.0	595	100.0	157	100.0	114	100.0
Manufacturing and mechanical.....	1,146	92.6	137	77.8	580	97.5	153	97.5	63	55.3
Asbestos.....	22	1.8	.....	.....	6	1.0	2	1.3	.....	.....
Chemicals.....	52	4.2	6	3.4	25	4.2	3	1.9	1	.9
Clay, glass, and stone.....	10	.8	.....	.....	1	.2	.....	.....	.....	.....
Construction.....	196	15.8	4	2.3	20	3.4	.....	.....	.....	.....
Electrical apparatus and supplies.....	80	6.5	18	10.2	18	3.0	18	11.5	1	.9
Food, beverages, and tobacco.....	35	2.8	15	8.5	21	3.5	13	8.3	37	32.5
Metals, machinery, and vehicles.....	435	35.2	39	22.2	113	19.0	13	8.3	3	2.6
Paper, printing, and publishing.....	18	1.5	1	.6	23	3.9	1	.6	3	2.6
Plastics.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rubber goods.....	23	1.9	15	8.5	26	4.4	5	3.2	.....	.....
Shoes and other leather.....	4	.3	1	.6	164	27.6	60	38.2	.....	.....
Textiles and clothing.....	239	19.3	21	11.9	127	21.3	28	17.8	16	14.0
Miscellaneous manufacturing.....	32	2.6	17	9.7	36	6.1	10	6.4	2	1.8
Service industries.....	45	3.6	27	15.3	2	.3	3	1.9	28	24.6
Beauty parlors.....	1	.1	11	6.2	.....	.....	.....	.....	9	7.9
Hospitals.....	.....	.....	1	.6	.....	.....	.....	.....	.....	.....
Hotels and restaurants.....	25	2.3	7	4.0	.....	.....	.....	.....	15	13.2
Laundries and dry cleaners.....	14	1.1	4	2.3	2	.3	3	1.9	1	.9
Care and custody of buildings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other domestic and personal service.....	2	.2	4	2.3	.....	.....	.....	.....	3	2.6
Agriculture.....	10	.8	1	.6	.....	.....	.....	.....	.....	.....
Clerical.....	1	.1	.....	.....	.....	.....	.....	.....	5	4.4
Mining and quarrying.....	.....	.....	.....	.....	2	.3	.....	.....	.....	.....
Professional and semiprofessional.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1.8
Public employment.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trade.....	35	2.8	11	6.2	8	1.3	1	.6	16	14.0
Transportation.....	.....	.....	.....	.....	3	.5	.....	.....	.....	.....
Miscellaneous.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

See footnotes at end of table.

Occupational-disease cases of men and of women according to industry, 6 States, 1935 to 1938—Continued

Industry	New York ² (1936-37, 2 years)		Ohio (1935-38, 4 years)				Wisconsin (1938 only)			
	Women		Men		Women		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total reporting.....	471	100.0	4,880	100.0	1,106	100.0	546	100.0	106	100.0
Manufacturing and mechanical.....	227	48.2	4,224	86.6	790	71.4	340	62.3	54	50.9
Asbestos.....										
Chemicals.....	11	2.3	247	5.1	14	1.3	12	2.2		
Clay, glass, and stone.....	4	.8	269	5.5	50	4.5	18	3.3		
Construction.....			222	4.5			98	17.9		
Electrical apparatus and supplies.....	16	3.4	250	5.1	37	3.3	2	.4	3	2.8
Food, beverages, and tobacco.....	45	9.6	300	6.1	88	8.0	52	9.5	30	28.3
Metals, machinery, and vehicles.....	19	4.0	1,877	38.5	202	18.3	77	14.1	4	3.8
Paper, printing, and publishing.....	17	3.6	172	3.5	78	7.1	14	2.6	2	1.9
Plastics.....			80	1.6	32	2.9				
Rubber goods.....	2	.4	390	8.0	122	11.0	1	.2	1	.9
Shoes and other leather.....	39	8.3	53	1.1	44	4.0	24	4.4	4	3.8
Textiles and clothing.....	58	12.3	96	2.0	66	6.0	7	1.3	6	5.7
Miscellaneous manufacturing.....	16	3.4	268	5.5	57	5.2	35	6.4	4	3.8
Service industries.....	170	36.1	192	3.9	179	16.2	27	4.9	22	20.8
Beauty parlors.....	39	8.3	4	.1	23	2.1			5	4.7
Hospitals.....	16	3.4	10	.2	11	1.0	1	.2		
Hotels and restaurants.....	63	13.4	79	1.6	84	7.6	10	1.8	11	10.4
Laundries and dry cleaners.....	11	2.3	44	.9	20	1.8	1	.2	3	2.8
Care and custody of buildings.....	36	7.6								
Other domestic and personal service.....	5	1.1	55	1.1	41	3.7	15	2.7	3	2.8
Agriculture.....	2	.4	55	1.1	11	1.0	19	3.5	2	1.9
Clerical.....	17	3.6	15	.3	22	2.0	1	.2	4	3.8
Mining and quarrying.....			43	.9						
Professional and semiprofessional.....	29	6.2	45	.9	9	.8	5	.9	14	13.2
Public employment.....							101	18.5		
Trade.....	19	4.0	196	4.0	90	8.1	35	6.4	10	.94
Transportation.....	7	1.5	25	.5			17	3.1		
Miscellaneous.....			85	1.7	5	.5				

¹ Sources of information: State departments of health in Connecticut, Michigan, and Ohio; departments of labor in other States.

² Corresponding data for men not available.

Age Distribution

Large proportions of the women injured by disease—from just over one-half to seven-tenths in the various States—were less than 30 years old; in fact, from 7 and 8 percent in two States to 25 and 36 percent in two others were less than 20 years of age.

	Percent of women—	
	Under 30 years	Under 20 years
Connecticut.....	70	25
Illinois.....	52	8
Massachusetts.....	63	36
Minnesota.....	57	17
New York.....	58	13
Ohio.....	56	7
Wisconsin.....	54	13



Exposure of Women to Toxic Substances and Conditions

In about a third of the States the departments of health had published surveys of their industrial-hygiene problems by the close of

1939. Certain of these that deal with conditions especially important for women are abstracted in the following paragraphs.

Pennsylvania¹

In the 16,000 manufacturing establishments studied in Pennsylvania in 1934, there were over 4,500 women with potential exposures to lead and its compounds; 7,300 worked under conditions exposing them to inorganic nonmetallic dusts; and 228,000 were exposed to organic dusts. More than 19,000 worked under abnormal temperature or humidity conditions.

The total number of exposures found was 323,332—larger than the number of women exposed, because in many instances women were subjected to more than one hazard.

In the prevention of industrial diseases, the importance of separate lunchrooms, adequate wholesome drinking water, adequate washing and toilet facilities, has been emphasized elsewhere and reflected in State legislation and safety regulation in general. Nevertheless, the survey found over nine-tenths of the establishments without a lunchroom and over half without a cloakroom. A fourth of all the factories provided only common drinking cups and almost as many provided common towels. There were 603 plants furnishing no drinking facilities whatsoever and 698 furnishing no toilet facilities. Unsatisfactory outdoor toilets were provided in 1,946 other industrial plants.

<i>Hazard</i>	<i>Number of potentially exposed women¹</i>	<i>Hazard</i>	<i>Number of potentially exposed women¹</i>
Organic dusts-----	228, 106	Acids-----	1, 687
Abnormalities of temperature or humidity-----	19, 120	Rubber and rubber compounds--	1, 376
Repeated motion, pressure, and shock-----	13, 848	Aluminum and its compounds---	1, 166
Metals-----	11, 695	Calcium compounds-----	1, 075
Miscellaneous-----	10, 800	Mercury compounds-----	811
Inorganic nonmetallic dusts....	7, 322	Rosins, resins, and synthetic resins-----	585
Paints, pigments, inks, and dyes-----	6, 637	Sodium compounds-----	534
Lead and its compounds-----	4, 554	Washing compounds-----	344
Organic chemical compounds---	3, 311	Chromium and its compounds---	220
Inorganic chemical compounds-----	2, 711	Arsenic and its compounds-----	185
Petroleum and its products---	2, 701	Cyanides-----	91
Solvents-----	2, 497	Radiant energy-----	72
Infections-----	1, 758	Asphalt and coal byproducts---	64
		Ammonium compounds-----	55
		Disinfectants, insecticides, and fungicides-----	7

¹ Some women were exposed to more than one hazard.

Illinois

In round numbers, 50,000 women were employed in the 2,846 plants studied in Illinois in 1938. Women comprised more than a fifth of all wage earners in these plants.² The industries included and the number of women surveyed are listed in table 1, with a distribution of the number of exposures to harmful substances or conditions.

¹ Pennsylvania Division of Industrial Hygiene. Control of Occupational Diseases in Pennsylvania, November 22, 1937.

² 32 of the 2,846 plants employed no women.

TABLE 1.—Industrial distribution of 50,064 women surveyed in Illinois in 1938, and number and percent of exposures to harmful conditions in industry ¹

Industry	Women employed		Women's exposures to harmful substances	
	Number	Percent of total employees ²	Total number	Number per 100 women
All industries.....	50,064	22.5	29,741	59
Chemicals and allied industries.....	2,637	19.9	2,219	84
Cigars and tobacco.....	181	36.2	67	37
Clay, glass, and stone.....	750	17.1	508	68
Roofing, asbestos products, abrasives, etc.....	243	6.0	146	60
Clothing.....	5,919	70.6	2,494	42
Food.....	7,637	35.6	6,400	84
Iron, steel, machinery, vehicle.....	3,660	6.1	3,102	85
Other metal.....	4,523	16.9	2,530	56
Leather.....	1,445	26.8	564	39
Lumber and furniture.....	1,378	11.1	1,061	77
Paper, printing, and allied industries.....	3,704	26.0	747	20
Textile industries.....	3,087	56.2	2,022	65
Miscellaneous manufacturing industries.....	11,270	32.0	7,347	65
Personal service ³	3,577	62.4	476	13
Commercial service ⁴	47	8.3	58	123

¹ Kronenberg, Milton H., M. D., chief of Division of Industrial Hygiene, Illinois Department of Public Health: Women in Industry. (In Industrial Medicine, September 1938.)

² Clerical employees not included.

³ Laundry, cleaning, and so forth.

⁴ Warehouse, jobbing, and so forth.

In proportion to the number employed, the personal-service industries in Illinois exposed the fewest women to harmful substances—13 of every 100 employed women. Of the large employers of women, the food industry, iron, steel, machinery, and vehicle manufacturing, and chemicals and allied products had the highest numbers of exposures in proportion to the women employed—84 or 85 per 100 women.

Analysis has been made of the harmful materials to which the women employed in a selected list of miscellaneous industries were exposed. The industries include electrical manufacturing, buttons, brooms, brushes, rubber, artificial flowers, mattresses, signs, mirrors, hair goods, lamp shades, scientific instruments, plastic molding, and so forth. The greatest number of exposures, over one-fifth of the 7,347 exposures reported, were to lead; some 1,600 women had lead exposures. Close to 1,000 women, 13.4 percent of the total exposures, were exposed to organic dusts; there were 1,720 exposures to dusts of various kinds. The third source of exposure in point of numbers exposed were, the alcohols, esters, and ethers, with 806 women, 11 percent of the total exposed. These three groups of harmful materials—lead; dusts; and alcohols, esters, and ethers—account for 56 percent of the exposures in miscellaneous manufacturing. Women were reported in 37 classified exposures, including 336 to petroleum products, 597 to lacquers, 138 to halogenated hydrocarbons, 130 to dermatitis producers, and 51 to fluorine gas.

From data based on electrical-manufacturing plants, 95 percent of all such plants in the State, the occupational exposures of women in this industry have been determined. The factories studied employed 16,026 persons; women, totaling 4,798, were employed in 23 occupations. Exposures of these women totaled 3,200—49 percent of them

lead, 9 percent alcohols, esters, and ethers, 8 percent lacquer. No occupation was entirely free from the possibility of harmful exposure. Ten occupations included lead among the harmful materials, five included silica and silicate dusts.

The table following makes an analysis for electrical-products and tinware manufacture in Illinois. In the tinware industry women are employed in a variety of occupations, and they constitute 28 percent of total employment. Dusts, carbon monoxide, lead, solvents, and miscellaneous metals and gases were the principal harmful substances offering a potential hazard to the woman employees.

TABLE 2.—Harmful substances to which employed women are exposed in the electrical-products and tinware industries in Illinois, by occupation

Occupation	Mineral acids	Alkalies	Coal-tar products	Dusts				Fluorine	Gases	Lead	Other metals	Alcohol, esters, and ethers	Halogenated hydrocarbons	Lacquers	Oil	Petroleum products	Organic solvents	Other solvents	Carbon monoxide	Chromium	Paint
				Silica	Silicate	Nonsilicate	Organic														
<i>Electrical-products manufacturing</i>																					
Amalgamater.....		★																			
Assembler.....	★	★																			
Brusher.....			★		★	★															
Cable maker.....					★																
Coil maker.....																					
Condenser maker.....							★														
Dipper, sprayer.....		★	★		★		★														
Finisher.....	★	★																			
Flash dipper.....																					
Glass blower.....								★													
Grinder.....			★	★	★	★	★														
Insulator.....			★							★											
Painter.....										★											
Pivot cutter.....																					
Platers' sprayer helper.....							★														
Plug filler.....																					
Polisher.....		★			★																
Punch-drill operator.....																					
Solderer.....	★																				
Stock girls.....																					
Welder helper.....									★												
Winder.....										★											
Wire cleaner.....	★				★					★											
<i>Tinware manufacturing</i>																					
Brusher.....					★	★					★	★								★	
Burner.....										★	★										
Cleaner.....																	★	★	★		
Enameler and helper.....						★					★										
Flux brusher.....																	★				
Hanger.....																					
Inspector.....						★					★										
Lining-machine operator.....																					
Lithograph-machine feeder.....																					
Packer.....				★																	
Punch-press operator.....	★							★													
Solderer.....																					
Soldering-machine operator.....																					
Sprayer.....										★	★										
Sprayer's helper.....										★	★										
Stamping-machine operator.....																					
Stenciler.....					★						★									★	

Reports on these industries are of great importance to employed women, in some cases because of the large numbers of women employed, as in shoe manufacture, in others because of the peculiar susceptibility of women to the hazards presented.

Pottery Manufacturing in West Virginia ³

Between September 1936 and July 1937 the United States Public Health Service, in collaboration with the West Virginia Bureau of Industrial Hygiene, completed physical examinations, with X-ray of the chest, of 2,516 men and women engaged in the manufacture of pottery products in West Virginia. Intensive surveys were made in 10 plants selected on the basis of a preliminary engineering survey of the 17 plants operating in the State at the time, to evaluate the working conditions and investigate methods in use to control health hazards. Medical examinations were conducted in 9 plants.

More than a third of all workers in the 17 plants in the State were women, employed in various departments and occupations as follows:

	<i>Number of women</i>
Clay shop.....	332
Finishers (tableware), 172; finishers and drillers (insulator and porcelain specialty), 122; trimmers and fettlers, 34.	
Bisque kiln placers, drawers, and so forth.....	48
Bisque warehouse.....	339
Brushers, tumblers, sandblasters, 308; tile sorters and mounters, 25.	
Underglaze decorating.....	134
Printers, 39; decorators, decal, foremen, 93.	
Glaze department.....	170
Dippers, helpers, spray-machine operators, hand sprayers, foremen, and miscellaneous, 141.	
Glost kiln drawers, sagger emptiers.....	32
Glost warehouse.....	388
Selectors, 49; dressers and chippers, grinders, cleaners, and polishers, 140; warehouse workers, 167; foremen and miscellaneous, 32.	
Overglaze decorating.....	874
Decal cutters and appliers, 479; dusters, 145; gilders and liners, 107; patchers and burnishers, 26; stampers, 51; washer operators, 43.	
Office, laboratory, and miscellaneous.....	121

Data show that both women and men are likely to work for a longer time in this industry than in others studied by the Public Health Service. In 9 of the plants surveyed in 1936-37, 60 women, about 7 percent of the 889 studied, had been employed in the industry from 20 to over 45 years. As many as 249, 28 percent of the total studied, had worked at pottery manufacture 10 and under 20 years.

In making this study of the lead hazards involved in pottery factories, all the 92 men and 45 women making glaze, dipping ware in glaze, or handling glaze-coated articles were examined. One man, a dipper, was suffering from lead poisoning, and 6 other persons, 1 a woman employed as a dipper's helper, showed signs of lead absorption. The results of the medical study for lead poisoning indicate a very considerable reduction in incidence of lead poisoning since the pottery

³ U. S. Public Health Service. National Institute of Health. Division of Industrial Hygiene. Public Health Bull. No. 244: Silicosis and Lead Poisoning Among Pottery Workers. Washington, 1939.

study of 1919.⁴ The reduction is attributed to the substitution of fritted glazes for glazes containing more readily soluble lead compounds, and to the mechanical methods of applying glaze in use in many factories. The warning is made that where soluble lead compounds are added to the glaze before use, and hand dipping is the method used or the spray machines are inadequately ventilated, the danger of poisoning is as great as ever.

The progress has by no means been so good in lessening the hazards from silicosis. Authors of the report conclude from engineering study of the industry that the gravity of the dust problem in the clay shops has not been adequately appreciated. In the clay shop a great variety of operations for forming ware are in use. The formed ware is placed on ware boards and air-dried to remove most of the remaining moisture. When sufficiently dry it is finished or fettled. Fettling and finishing are principally done by women who may be exposed to dangerous concentrations of dust. A single dust count made at the breathing level of a fettler working over a down-draft ventilator gave 2 million particles per cubic foot, while fettlers in other plants were exposed to an average of 19 million particles per cubic foot.

A large number of women are in occupations that may have a dust hazard in the bisque warehouse. Much of the work of women is in sandblasting, and much of the ware, particularly flatware, is now cleaned in sandblast machines. These machines are provided with exhaust ventilation, requiring careful periodic inspection. Even partial failure of the ventilating system could result in the release of large quantities of dust.

In the careful medical examination of 9 potteries, 22 women were found to have silicosis, 5 of them second-stage cases complicated by infection. Seventeen were in the first stage, 10 without complications, 2 with tuberculosis, and 5 with infection of a nonspecific nature. Of these women with silicosis, 12 were 25 to 34 years of age, 1 was younger, 2 were 45 or older.

Eight of the 14 women who had worked at finishing and fettling for more than 20 years were found to have silicosis. One of the woman silicosis victims who had been working as a fettler of tile in a press room for 14 years was exposed to an estimated dust of 153 million particles per cubic foot—an unusually high dust concentration for this type of fettling. Tableware finishing and fettling are carried on by women who are exposed to an average dust concentration of 12 million particles per cubic foot, of which about 33 percent is quartz. As the chart, figure 3, shows, silicosis was found in 11 percent of the finishers and fettlers employed in these operations from 10 to 19 years, in 37 percent of those employed from 20 to 29 years, and in 83 percent of the group employed for more than 30 years.

A similar rise in the incidence of silicosis with length of employment is observable if all clay-shop workers are grouped together. Two women working as decorators were found to have silicosis contracted in the course of earlier employment in the clay shop.

⁴ U. S. Public Health Service. Public Health Bull. No. 116: Lead Poisoning in the Pottery Trades, 1921.

Bisque- and glost-kiln workers have similar dust exposures, about 6 million particles per cubic foot. Because of relatively high wages they tend to remain for long periods in the industry. Silicosis was found in 6 percent of those employed from 10 to 19 years, 21 percent of those employed 20 to 29 years, and in 52 percent of those employed over 30 years.

Operations offering no exposure to the silicosis hazard include decorating, selecting ware, and work in the mold shop and office—work usually carried on in buildings or parts of buildings remote from dust-producing operations.

Hazards to Women in Five Other States

Organic dusts constitute a serious health hazard to which women are likely to be exposed in clothing and textile factories and to a lesser extent in certain other lines of manufacture and in laundries. This is emphasized by studies of industrial hygiene recently made by health departments in five States, with the advice or active cooperation of the United States Public Health Service. The States are Maine, South Carolina, Texas, Utah, and Virginia. Studies such as these are the first step toward pointing out methods of prevention.

Respiratory diseases may arise from constant breathing of dust-laden air. In clothing factories the percent of all workers exposed to such dusts varied from 27 in Maine to 87 in Utah; in textile mills from 59 in Virginia to 82 in Utah. Practically two-thirds or more of the workers reported in the following were exposed to organic dusts: Cigar and tobacco factories in Virginia, wood-turning plants in Maine, and laundries in Texas.

Reports from Ohio, one of the few States recording occupational diseases by sex, bring to light the following cases of women suffering from respiratory diseases caused by organic dusts not compensable until the amendment of 1939: A wool winder, a pasteboard carton maker, a hard-rubber grinder. A woman sewing on coats was reported as having conjunctivitis due to lint.

Another hazard that must be controlled by ventilation is exposure to extreme heat and humidity, often found in textile mills and in laundries. More than half of the workers in textile mills in South Carolina were confronted with this condition at their workplaces. Though much careful attention has been given to this condition in textile mills, the extent to which it has been controlled cannot be determined. In Utah nearly two-thirds of the workers in laundries were exposed to extreme humidity and more than half to marked temperature changes.

Exposure to dyes is common in the textile and clothing industries, where dermatitis is caused not only in the dyeing of textiles, work done almost entirely by men, but in the handling of dyed goods. A recent Ohio report for a single week listed three women in garment factories as suffering from dermatitis attributed to dyes.

Industries with a considerable proportion of workers exposed to miscellaneous dermatitis producers were: Maine, fish curing and packing, 70 percent; Texas, candy, 54 percent, fruit and vegetable canning, 36 percent; Utah, confectionery and fruit and vegetable canning, 66 percent in each. Not all workers are equally affected by the

various substances. Since new materials are constantly being introduced, the effects of which are not yet understood, a program of control must be supplemented by compensation for occupational diseases under workmen's compensation laws. As yet, the five States studied here have no such coverage.



LABOR LAWS APPLYING TO WOMEN ONLY ¹

Woman workers have special need of labor laws because, in relation to their work for pay, women are not in so advantageous a position as men. For example, before hour laws for women were passed, hours of work often were longest in industries employing many women; many women work in highly seasonal industries and have employment more irregular than men's; women ordinarily are paid lower wages than men, even in the relatively few cases where they do similar work.

Irregular employment and low wages have made it difficult for women to organize and maintain strong labor unions to advance their economic interests. As a result of these and other circumstances, women have had greater need than men for the protection afforded by labor laws. This remains true, since women still are at a greater disadvantage than men in getting jobs that pay well and that offer them chances of good advancement.

Types of Labor Laws for Women in the Various States

The types of labor laws applying to women only which are in effect in the various States may be seen in the following table:

¹ Abstracted for the most part from U. S. Women's Bureau Bull. No. 156: State Labor Laws for Women, part 1, Summary, by Florence P. Smith. Data as of Dec. 31, 1940.

Laws Regulating Women's Hours of Labor

Only four States—Alabama, Florida, Iowa, and West Virginia—have no law of any sort regulating the working hours of women. Indiana has but one limitation of hours—that prohibiting the employment of women at night in manufacturing. The remaining 43 States, the District of Columbia, and Puerto Rico have definitely forbidden the employment of women for more than a certain number of hours a day or week or have penalized all employment beyond certain specified hours by providing that it must be paid for at an increased rate.

Hours of work are limited to 8 a day by the laws of 19 States—Arizona, California, Colorado, Connecticut, Illinois, Kansas, Louisiana, Montana, Nevada, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina,¹ Utah, Washington, and Wyoming—and the District of Columbia and Puerto Rico. The number of industries or occupations included in these laws varies greatly.

Arizona, Nevada, Ohio, Pennsylvania, Utah, and Puerto Rico laws are general in their coverage, but all allow some exemptions, while the laws in the other 14 States and the District of Columbia apply to specific industries or occupations. These range from a long list of industries, in effect providing general coverage, to five or six industries or, as in Connecticut, to only one industry.

Oregon, which does not have an 8-hour law, has provided an 8-hour day and a 44-hour week for women in practically all its industries through orders of the State welfare commission, which is authorized to fix maximum hours as well as minimum-wage rates for women.

While the States in this group limit daily hours uniformly to 8, weekly limits range from 40 to 54, with a 48-hour maximum predominating.

SUMMARY OF LIMITATIONS ON WOMEN'S WEEKLY HOURS

	<i>Less than 48 hours a week</i>	
Ohio (45)	Pennsylvania (44)	Utah (45)
Oregon (44)	South Carolina (40) ¹	
	<i>48 hours a week</i>	
Arizona	Nevada	Pennsylvania
California	New Hampshire	Rhode Island
Colorado	New Mexico	Utah
Connecticut	New York	Virginia
Illinois	North Dakota	Washington
Kansas	North Carolina	Wyoming
Louisiana	Ohio	District of Columbia
Massachusetts	Oklahoma ²	Puerto Rico
Montana	Oregon	
	<i>Over 48 and under 54 hours a week</i>	
Connecticut (52)	Oklahoma (51) ²	Wisconsin (50)
Kansas (49½)	Vermont (50)	
	<i>54 hours a week</i>	
Arkansas	Minnesota	New Mexico
Kansas	Missouri	North Dakota
Louisiana	Nebraska	Oklahoma
Maine	New Hampshire	South Dakota
Michigan	New Jersey	Texas

See footnotes at end of table.

¹ This law is inoperative pending court decision. It applies to men and women.

Over 5½ and under 60 hours a week

Connecticut (58)	North Carolina (55)	Tennessee (57)
Delaware (55)	North Dakota (58)	Wisconsin (55 and 56)
New Mexico (56)	Oklahoma (57 and 58) ²	

60 hours a week

Georgia	Mississippi	Wisconsin
Kentucky	Oregon	Alaska
Louisiana	South Carolina	
Maryland	Washington	

*Over 60 hours a week*Oklahoma (62)²¹ Inoperative pending court decision.² The Oklahoma hour law provides a 9-hour day, 54-hour week; all other provisions appear in industrial welfare commission orders which are now inoperative pending court review.

WOMEN IN LABOR UNIONS

Women's Participation in Labor Organizations ¹

The present number of woman members in labor organizations, union by union, is not available and is difficult to estimate. Some indication can be gained from scattered reports or records, but the numbers cannot be given completely. Moreover, where lists are used, as for example lists of delegates, some women may be missed because of the similarity of their names to men's. A recent estimate (1939) placed the number at some 800,000. If these figures are correct, woman union members have more than doubled since 1920, when about 397,000 women were reported as organized.

The work of the National Women's Trade Union League, formed in 1903, has been invaluable both in educating woman workers as to their need for unions and in educating unions as to their need for including women.

MORE IMPORTANT UNIONS IN WOMAN-EMPLOYING INDUSTRIES

Manufacturing

Textiles:

Textile Workers Union of America.
 American Federation of Hosiery Workers. (Department of above.)
 United Textile Workers.

Clothing and allied products:

Amalgamated Clothing Workers of America.
 International Ladies' Garment Workers' Union.
 International Fur Workers' Union of the United States and Canada.
 United Garment Workers of America.
 United Hatters, Cap and Millinery Workers' International Union.

Food:

Amalgamated Meat Cutters and Butcher Workmen of North America.
 Bakery and Confectionery Workers' International Union of America.
 Packinghouse Workers Organizing Committee.
 United Cannery, Agricultural, Packing and Allied Workers of America.

¹ From U. S. Women's Bureau Bull. No. 172: The Woman Worker Today, by Elisabeth D. Benham.

- Metal, machinery, and transportation equipment:**
 Aluminum Workers of America.
 International Jewelry Workers' Union.
 Steel Workers Organizing Committee.
 United Automobile Workers of America.
 United Electrical, Radio and Machine Workers of America.
- Paper, printing, and allied industries:**
 American Newspaper Guild.
 International Brotherhood of Pulp, Sulphite, and Paper Mill Workers of the United States and Canada.
 International Brotherhood of Bookbinders.
 International Brotherhood of Paper Makers.
- Leather and leather goods:**
 Boot and Shoe Workers' Union.
 International Glove Workers' Union of America.
 International Ladies' Handbag, Pocketbook, and Novelty Workers' Union.
 United Leather Workers' International Union.
 United Shoe Workers of America.
- Clay, glass, and stone products:**
 Federation of Flat Glass Workers of America.
 Glass Bottle Blowers' Association of the United States and Canada.
 National Brotherhood of Operative Potters.
- Tobacco and tobacco products:**
 Cigar Makers' International Union of America.
 Tobacco Workers' International Union.
- Miscellaneous:**
 Optical Workers Organizing Committee.
 International Union of Playthings and Novelty Workers.
 United Furniture Workers of America.
 United Rubber Workers of America.
 Upholsterers' International Union of North America.

Nonmanufacturing

- Clerical employment² (in most cases, other workers, often professional, are included):**
 American Federation of Government Employees.
 American Federation of State, County and Municipal Employees.
 National Federation of Federal Employees.
 National Federation of Post Office Clerks.
 State, County and Municipal Workers of America.
 United Federal Workers of America.
 United Office and Professional Workers of America.
- Trade:**
 Retail Clerks' International Protective Association.
 United Retail and Wholesale Employees of America.
- Hotels and restaurants:**
 Hotel and Restaurant Employees' International Alliance and Bartenders' International League of America.
- Telephone and telegraph:**
 American Communications Association.
 The Commercial Telegraphers' Union of North America.
 Telephone Operators' Department of the International Brotherhood of Electrical Workers of America.
 Order of Railroad Telegraphers.
- Laundries:**
 Laundry Workers' International Union.
 Amalgamated Clothing Workers of America have organized laundry workers in the New York City area.
- Beauty parlors:**
 Journeymen Barbers' International Union.
- Professional (see Clerical also):**
 Federation of Architects, Engineers, Chemists, and Technicians.
 Associated Actors and Artistes of America.
 American Federation of Teachers.
 American Federation of Musicians.

² There are a number of local unions of stenographers, typists, bookkeepers, and assistants, with no national organization.

Youth in Industry

U. S. Bureau of Labor Statistics Bulletin No. 694.
Handbook of Labor Statistics: 1941 edition.

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Special Problems of Young Workers

It is, of course, impracticable to draw a hard and fast age limit to distinguish between the ending of childhood and the beginning of youth. Broadly speaking, however, 18 years may be taken as roughly indicating the deciding line from the standpoint of industrial employment. Under 18 years of age the industrial problem is chiefly concerned with the desirability of regular employment outside the home and, if so, the need for special protective legislation and practices. At 18 and above, the problem changes to one of proper training and placement. How shall the youth of the country be so trained and how be so directed to jobs that there will be a minimum of delay in placing the young worker in suitable employment?

During the depression years of the thirties the difficulties in the way of the young men and women entering the labor market were naturally increased because of the apparent scarcity of jobs. Attention was more than ever directed to the desirability of proper school and vocational training and to the importance of vocational guidance to those young persons who desired or were forced to seek remunerative work.

Various studies were made of the extent and different aspects of the problem. Educators critically reexamined school systems and vocational-guidance procedures to detect inadequacies in the preparation of young people for working life. The Federal Committee on Apprentice Training intensified its efforts to promote the establishment of new organizations for such training. The American Youth Commission of the American Council of Education was created to study and plan to meet conditions which, it was suggested, might be a basic menace to the welfare of the Nation. The Civilian Conservation Corps and the National Youth Administration were established to supply training or employment for jobless young persons in needy families. The recognition that special skills were required to get jobs for youth resulted in the organization in many cities of junior placement divisions in public employment offices. A special Occupational Outlook Service was set up in the Bureau of Labor Statistics (see p. 611). The articles summarized below review some of the important developments in this field. For data on Child Labor see section under that title in another part of this Handbook.



Occupational Adjustment of Youth ¹

Every year approximately 1 $\frac{3}{4}$ million boys and girls in this country enter the labor market as beginning workers. The great majority of them know very little about themselves as workers or about the workaday world, because they have had neither vocational counseling

¹ From Monthly Labor Review for February 1941.

nor guidance. Most of them are lacking in basic skills because their schools have offered them either no vocational preparation at all or unattractive kinds of training. Also, most of them are not guided to suitable, available employment because no placement agency makes its facilities known to them.

Realization of this situation prompted the American Youth Commission and the United States Employment Service, now incorporated with the Bureau of Employment Security of the Federal Security Agency, to undertake a joint program of research into the requirements of youth in quest of jobs and a demonstration of several procedures for meeting such requirements. The findings and activities resulting from this program are embodied in a report entitled "Matching Youth and Jobs," from which these data are taken.²

Vocational Guidance

According to the report under review, conversation with an average group of young people in this country should make it obvious to doubters that probably no educational or social service is more generally needed by youth in the United States than that "which develops in them the capacity to understand at least the basic occupational realities of the new world they are entering and to know with some measure of realism the occupations in which their individual aptitudes, abilities, and skills can most probably and most profitably be put to work."

Vocational Preparation

During the carrying out of the joint project trained analysts interviewed employers and requested them to state what they regarded as the minimum schooling requisites for successfully performing specified jobs.

The following statement, based on a sample which includes 2,216 occupations in 18 industries,³ representing about 28 percent of the gainful workers and believed to be roughly representative of 70 percent of all gainful workers in the United States, shows the minimum educational specifications of employers:

	<i>Percent of occupations</i>
None ¹ -----	47.1
Some elementary school-----	7.8
Elementary school graduation-----	12.1
Some high school-----	3.8
High school graduation-----	20.2
Some college-----	2.5
College graduation-----	6.5

¹ Requires, however, ability to speak, read, and write English.

As shown above, about 47 percent of these jobs call only for ability to read, speak, and write, and 67 percent for nothing more than an elementary-school education. For only 9 percent of the jobs was college education or graduation demanded.

The training required "to reach normal production on the job" is shown below for 2,216 occupations in the 18 industries. These

² American Council on Education. *Matching Youth and Jobs—A Study of Occupational Adjustment*. by Howard M. Bell. Prepared for the American Youth Commission. Washington. 1940.

³ Bakery; business service; cleaning, dyeing, pressing; clerical; concrete products; construction; cooperage; domestic service; personal service; hat and cap manufacture; hotels and restaurants; ice-cream manufacture; ice manufacture; insurance; job foundry; job machine shops; marble, granite, slate, etc.; wooden cigar-box manufacture.

data indicate that for 59 percent of the occupations covered it was believed that workers could attain normal production in a week or less after they were assigned to jobs.

Training on the job required:	Percent of occupations
None.....	8.5
1 week or less.....	59.0
More than 1 week, but not more than 1 month.....	11.3
More than 1 month, but not more than 3 months.....	6.1
More than 3 months, but not more than 6 months.....	5.6
More than 6 months.....	9.6

The junior division of a placement agency holds a key position for diverting the energies of youth "into socially useful and reasonably satisfying channels."

Summary and Conclusions

In summarizing the conclusions and recommendations in regard to matching youth and jobs, the author makes the following statements:

I. Federal and State agencies have important contributions to make in the development of occupational adjustment programs.

Existing needs require a substantial expansion of the National Occupational Outlook Service (of the United States Bureau of Labor Statistics).

The Occupational Information and Guidance Service of the Office of Education has an essential function to perform in the orientation and stimulation of local adjustment programs.

The Bureau of Employment Security should encourage the expansion of guidance and placement services for youth.

The National Youth Administration and the Civilian Conservation Corps should continue to provide out-of-school youth with guidance, work experience, and occupational information.

II. For practical purposes, the local labor market is the occupational adjustment community.

The local labor market is an appropriate area in which to conduct research.

The local labor market is also a practical area in which to conduct certain operating phases of an occupational adjustment program.

III. Schools should give their students the clearest possible awareness of their occupational potentialities.

Schools should also give their students the best possible understanding of occupational demands and opportunities.

IV. Vocational education is an essential element in effective schooling—its fundamental aim should be to enrich curricula and supplement vocational guidance.

V. Specialized vocational training is not a necessary element in the process of occupational adjustment for all youth—nor is it, like vocational education, a responsibility of all public schools.

VI. The whole adjustment process should lead directly to the placement of the youth on the kind of job he is qualified by aptitude, interest, and ability to perform.

VII. Coordination of activities and agencies is an essential characteristic of an effective adjustment program.



Youth Commission's Work Program ¹

In view of the world crisis and the inevitably slow adjustment of business to existing conditions, the American Youth Commission concludes in a report issued in 1939 that every young person who does not desire to continue in school after 16, and who cannot get a job in private enterprise, should be provided under public auspices with employment in some form of service.²

¹ From the Monthly Labor Review for January 1940.

² American Youth Commission. A Program of Action for American Youth. Washington, 1939.

The American Youth Commission is a branch of the American Council of Education. Since the death of Newton D. Baker, Owen D. Young has been the acting chairman of the commission, which includes among its members Government officials, educators, writers, editors, and representatives of industry and labor.³

Disadvantaged Youth

According to the November 1937 census of unemployment, nearly 11,000,000, or one-fifth of the available workers, were either totally unemployed or on emergency work. The accompanying table shows that the years of highest employability at that time were in the 25-55 age group.

Available workers totally unemployed or engaged in emergency work, Nov. 30, 1937, by age

Age group	Estimated percent	Estimated number
All ages.....	20	10,983,000
15-19 years.....	41	1,934,000
20-24 years.....	24	1,989,000
15-24 years.....	30	3,923,000
25-34 years.....	16	2,225,000
35-44 years.....	16	1,839,000
45-54 years.....	17	1,576,000
55-64 years.....	20	1,029,000
65-74 years.....	19	349,000

¹ Includes 42,000 for whom age was not reported.

The commission calls attention to the fact that the number of persons in the 15-19 age group in our population was then at its maximum. That number was approximately 850,000 greater than the number in 1930, and 1,800,000 more than the estimate for 1950 (on the basis of births in past years).

In this modern world, the commission continues, young people have more and more difficulty in getting a start even in periods which are somewhat prosperous. Self-employment opportunities on the land are limited because the number of farm boys who reach the age of 18 every year is double the number of farms that become vacant. Work opportunities in family enterprises are fewer as a result of increasing business concentration and the decline in the number of successful small businesses. During the depression years professional associations and trade-unions raised the minimum entrance age higher and higher and placed more and more drastic restrictions on work opportunities for apprentices and beginners. The large employers who have instituted the policy of taking on and training young people have not been sufficiently numerous to counteract these adverse employ-

³ The members of the commission, besides Mr. Young, are Will W. Alexander, Administrator, Farm Security Administration; Clarence A. Dykstra, president, University of Wisconsin; Dorothy Canfield Fisher, writer; Willard E. Givens, executive secretary, National Education Association; Henry I. Harriman, former president, Chamber of Commerce of the United States; Rev. George Johnson, director, department of education, National Catholic Welfare Conference; Dr. Mordecai W. Johnson, president, Howard University; Chester H. Rowell, editor, San Francisco Chronicle; William F. Russell, dean, Teachers College, Columbia University; John W. Studebaker, U. S. Commissioner of Education; Henry C. Taylor, director, Farm Foundation; Miriam Van Waters, superintendent, Reformatory for Women, Framingham, Mass.; Matthew Woll, vice president, American Federation of Labor; Robert E. Wood, chairman of board, Sears, Roebuck & Co.; and George F. Zook, president, American Council on Education.

ment trends. Undoubtedly, a protracted period of increasing prosperity with a continued dearth of workers without experience would result in further facilities for training beginners for the industrial field. However, the Nation has to meet the conditions of today in a crisis which does not allow for slow adjustments.

The trends in population and the general industrial changes, referred to above, aggravated by heavy and prolonged unemployment among the gainful workers in all age groups, have resulted in a generation of young people which includes an extraordinarily large proportion with no training or work experience.

Remedial Measures

One of the reiterated proposals for solving the youth unemployment problem is to raise the compulsory school-attendance age. It is the belief of the commission that all young persons should be obliged to attend full-time school up to 16 years of age, but that it would not be advisable to make such attendance compulsory above that age to youth who prefer gainful employment. Above 16 years of age many young persons who would be benefited from training on a job would be wasting their time by attending school.

The success of experiments combining part-time schooling with part-time jobs has impressed the commission, and it recommends the rapid extension of this scheme for eliminating the hiatus between full-time schooling and full-time employment. However, opportunities for even part-time work are restricted, and this excellent device for introducing young persons into industry cannot solve the general jobless-youth problem in a brief period.

No good purpose can be served by blaming the young person who has not found a job for himself. The facts of arithmetic cannot be wished away. In the entire country, a few thousand jobs probably are vacant because no competent applicant has appeared. Another few thousand chances probably exist for unusual young people to make their own jobs by starting new enterprises. But there are several million more young men and women who want to work than there are jobs available for them. The totals do not balance. The bright or the lucky get the jobs, but some will have to be left out until their elders, who control the economic conditions of the country, find some way to open the gates.

The fact that the older people own the property and control practically all the jobs lays upon them the major responsibility for making the opportunities match the number of youth they have brought into the world.

The commission stresses the fact that whether a nation is at war or in peace it must provide proper opportunities for making useful citizens of its young people. The commission states that while it is frankly proposing a program which will expand the Federal budget at a period when the demand for economy and a balance of income and expenditures is acute, in its judgment the actual cost of the measures here advocated will be less than might be expected. The suggested public employment for youth need not be full time nor highly paid. The cost per young worker could be kept within \$400 per annum; on the other hand, the contribution of these young persons would, no doubt, help their families and consequently reduce the need for public aid from other funds. The jobs on which these young people are placed should provide constructive employment experience and their performance should be a real service to the community. Work conforming to these standards would be an addition to the national wealth.

In planning public employment for youth, special attention should be paid to its educational aspects. The superintendents of the work projects should be competent to train young persons not only in specific skills but also in good work habits. The employment should be carried on in a spirit which will make the youthful workers feel that they are valuable to their country. Furthermore, these projects should provide opportunities to try out different types of work so that the young persons may discover their own aptitudes and abilities and be given some guidance in their preparation for private employment along lines in which it would seem they might be most useful and successful.

Besides the various kinds of conservation work and the construction of needed public buildings, one valuable community service which should be greatly extended, according to the report under review, is the "self-help" production of goods and services needed by both young people and others among the unemployed. Although some persons may regard this production as competition with business, the commission disagrees with this viewpoint and holds that, "in any event, it is far preferable to unemployment or to the levels of taxation which would be necessary to support a decent level of subsistence for those in need if they are not allowed to do anything for themselves."



Activities of National Youth Administration, 1935-40 ¹

The National Youth Administration was established on June 26, 1935, within the Works Progress Administration, and was transferred to the Federal Security Agency on July 1, 1939. The Administration carries on an out-of-school work program and a student-work program.

NYA out-of-school work projects must be cosponsored by public agencies, and as a guaranty of the project's usefulness and of community interest in its success, these cosponsors usually provide materials, equipment, and expert supervision. The products resulting from NYA work are for use by public agencies. Only projects providing services or facilities that could not be made available within the regular budgets of the cosponsoring agencies may be initiated. No project is undertaken which would displace regularly employed personnel.

Distribution of Funds

Funds for the out-of-school work program are allocated among the States and Territories on the basis of youth population. In the student-work program, allotments to secondary schools are made by the State Youth Administrator after consultation with school officials and welfare agencies upon the basis of school census, youth population, need, school facilities in the respective States, and other basic criteria. College and graduate allotments are made on the basis of the enrollment of participating institutions.

¹ From the Monthly Labor Review for May 1941. Data are from U. S. Federal Security Agency: First Annual Report of the Federal Security Administrator, 1940, Washington, 1941; Social Security Board, Social Security Bulletin, Washington, February 1941; National Youth Administration, Annual Report for the year ending June 30, 1940, Washington 1940, and Meeting the Problems of Youth, Washington, 1941.

Table 1 shows distribution of Federal funds used for NYA programs, by years, and average numbers of young persons employed on these programs, 1939-40, with appropriations and estimated employment for 1940-41.

TABLE 1.—*Distribution of Federal funds used for NYA programs, 1935-36 to 1939-40, with appropriations for 1940-41*

Year	Federal funds ¹	Average number of youth employed												
1935-36	\$35,535,354	445,000												
1936-37	65,619,042	579,000												
1937-38	51,156,505	451,000												
1938-39	75,146,908	593,000												
1939-40	94,427,805	715,000												
1940-41	<table style="border: none;"> <tr> <td style="border: none;"> <table style="border: none;"> <tr> <td style="border: none;">95,894,000</td> <td style="border: none;">}</td> <td style="border: none;">4 779,000</td> </tr> <tr> <td style="border: none;">² 30,485,375</td> <td style="border: none;">}</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">³ 21,955,000</td> <td style="border: none;">}</td> <td style="border: none;"></td> </tr> </table> </td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> </table>	<table style="border: none;"> <tr> <td style="border: none;">95,894,000</td> <td style="border: none;">}</td> <td style="border: none;">4 779,000</td> </tr> <tr> <td style="border: none;">² 30,485,375</td> <td style="border: none;">}</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">³ 21,955,000</td> <td style="border: none;">}</td> <td style="border: none;"></td> </tr> </table>	95,894,000	}	4 779,000	² 30,485,375	}		³ 21,955,000	}				
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95,894,000	}	4 779,000												
² 30,485,375	}													
³ 21,955,000	}													

¹ Exclusive of administrative funds.
² First Supplemental Civil Functions Appropriation Act, 1941.
³ First Deficiency Appropriation Act, 1941.
⁴ Estimated.

The distribution (as of November 1, 1940) of NYA fund allotments for operation of programs during the fiscal year ended June 30, 1941, is reported as follows: ²

Out-of-school work program.....	\$98,419,375
Student-work program.....	27,918,154

Out-of-School Work Program

Young persons who have left school and have no jobs are eligible for part-time employment on the NYA out-of-school work program. Approximately 90 percent of the boys and girls so assigned have had little or no experience in remunerative work.

Selection of Youth

To be eligible for work on an out-of-school project the young person must be a citizen of the United States, unemployed, in need of a job and employment experience, and between 18 and 24 years of age, inclusive. (It was provided, however, that after August 1, 1940, exceptions might be made under special circumstances for those 16 and 17 years old.)

Local relief agencies are requested to certify to the National Youth Administration all unemployed and needy youth known to such agencies. In the case of youth from families which have been subject to relief investigations, certifications by the investigating agencies, including State and local public relief agencies, the Work Projects Administration, and the Farm Security Administration are accepted as prima facie evidence of the youth's need. For youth whose families have not been subject to investigation by a public relief agency, the State Youth Administration accepts referrals from nonrelief agencies or direct applications from youth, and conducts its own investigation into the youth's need.

² The First Deficiency Act, 1941, provided a supplementary appropriation of \$21,955,000 (not included in these allotments) to be expended in accordance with the provisions of the National Youth Administration Act, 1941, as amended, with certain specified exceptions.

Before being assigned to a project, each young person is interviewed in order to discover the kind of work experience that would most closely fit his or her aptitudes and interests. Subsequently every effort is made to measure and evaluate the progress of each boy and girl.

Every youth working on an NYA project must be registered with a local agency of the State Employment Service. In developing projects, the placement service of the employment office is utilized in order that these NYA young people can be engaged on work related to the local labor-market opportunities.

The ratio of eligible applicants to available jobs under the NYA out-of-school program is 3 to 1.

Employment and Turn-Over

In the fiscal year 1939-40, on the average 264,460 youth were working on the out-of-school program—149,138 young men and 115,322 young women.

The young people on the program here reported must accept bona fide offers of jobs in private employment. The NYA, however, assures them of reassignment to their project at the termination of their private jobs. Youths who are dropped from the program because of its curtailment may also be taken on again.

As a result of the high labor turn-over on the out-of-school work projects, employment was extended during the year 1939-40 to 575,000 different young persons. It is estimated that 1,100,000 different young people have shared in the out-of-school work program since it was inaugurated.

Local, Resident, and Regional Projects

Local projects.—The great majority of the out-of-school youth on the NYA projects live at home with their families. They spend a number of hours each day at their work and frequently spend additional time in attending related training classes.

Resident projects.—As of December 1940, approximately 600 NYA resident projects, located in 45 States, were in operation, employing about 30,000 young men and young women (or about 10 percent of the total youth on the out-of-school work program at that time). Young people on resident projects live at the job site, in various kinds of quarters from remodeled dwelling houses to large dormitories, provision being made for their subsistence by a deduction from their wages.

Resident projects were undertaken on a national scale in the spring of 1937, after a year of experimentation had proved how difficult it was to provide suitable work for youth living in sparsely populated rural sections. Later a number of resident projects were established for urban youth.

Many of these projects are carried on in conjunction with agricultural and mechanical schools and colleges, teachers' colleges, vocational schools, and hospitals.

Regional projects.—In 1938-39 another type of resident project was developed—the regional project. In a region including several States, project employees who have shown more than ordinary aptitude or ability have been offered the opportunity to attend a regional center where more attention has been given to the development of

their talents. These centers give these young people more technical and specialized exploratory work experience, particularly in the mechanical fields. On the basis of this experience, such larger resident centers are being constructed and put into operation.

Hours and Earnings

The total payment for the wages of young persons employed on the program during 1939-40 was \$50,133,599, the average earnings per month of all young persons on nonresident projects being \$15.15 for an average of 53 hours of work per month.

Resident project youth live at the project location and their food and lodging are provided by the National Youth Administration. On these projects the monthly gross wage, including the cost of shelter and subsistence, may not exceed \$30 per month for youth in full-time residence or \$20 for part-time residence. The minimum net cash payment to the youth in addition to the subsistence furnished (including food, lodging, sanitation, medical and dental care) has been set at \$8 per month.

In the wage schedule for 1940-41 the urban-rural differentials are eliminated and the basic rate is fixed at \$18 for the North Atlantic, East North Central, and Pacific States, \$14 in the East South Central, and Southwestern States, and \$16 in the remaining States. "The new regulations increase the rate for junior foremen and crew leaders to \$6 above the basic rate in the same area, but permit only 5 percent of the youth workers to be assigned to duties requiring these rates."

Physical Accomplishments

The following table giving statistics for the fiscal year ending June 30, 1940, indicates the character and amount of work done under the out-of-school work program:

TABLE 2.—Major work completed in NYA out-of-school work program during fiscal year ended June 30, 1940

Type of project	Unit	Work completed	
		New construction or additions	Repair or improvement
Public buildings.....	Number	3,518	7,345
Administrative buildings.....	do.	58	306
Educational buildings, total.....	do.	526	4,361
Schools.....	do.	324	3,872
Libraries.....	do.	12	116
Dormitories.....	do.	55	207
Other educational buildings.....	do.	135	166
Social and recreational buildings, total.....	do.	544	1,103
Auditoriums.....	do.	9	95
Gymnasiums.....	do.	41	201
Youth center buildings.....	do.	105	235
Community buildings.....	do.	210	372
Other social and recreational buildings.....	do.	179	200
Charitable, medical, and mental buildings, total.....	do.	49	209
Hospitals and clinics.....	do.	9	77
Isolation buildings.....	do.	31	11
Other charitable, medical, or mental buildings.....	do.	9	121
Other public buildings.....	do.	2,341	1,366
Agricultural buildings.....	do.	406	441
Workshop buildings.....	do.	125	156
Street markets, roadside stands, booths, etc.....	do.	1,442	165
Other buildings.....	do.	368	604
Recreational structures and facilities:			
Recreational structures, total.....	do.	1,284	1,290
Stadiums, grandstands, and bleachers.....	do.	360	568
Shower and dressing-room structures.....	do.	157	317
Bandstands, bandshells, and outdoor theaters.....	do.	73	81
Park and trailside shelters.....	do.	694	324

TABLE 2.—Major work completed in NYA out-of-school work program during fiscal year ended June 30, 1940—Continued

Type of project	Unit	Work completed	
		New construction or additions	Repair or improvement
Recreational structures and facilities—Continued.			
Recreational areas and facilities:			
Parks.....	Acres.....	23,030	20,127
Playgrounds.....	Number.....	747	1,706
Fair and rodeo grounds.....	Acres.....	327	843
Athletic fields.....	Number.....	506	939
Golf courses.....	do.....	23	54
Tables and benches, fireplaces in picnic areas.....	do.....	45,204	-----
Bridle paths, bicycle paths, and trails.....	Miles.....	108	74
Swimming and wading pools.....	Number.....	115	163
Tennis courts.....	do.....	682	1,225
Other game or play courts.....	do.....	1,021	539
Road and street work:			
Highways, roads, and streets.....	Miles.....	1,192	3,083
Sidewalks.....	do.....	158	81
Culverts.....	Number.....	146,245	28,579
Bridges.....	do.....	700	654
Roadside landscaping.....	Miles.....	1,659	-----
Parking areas and overlooks.....	Square yards.....	501,878	354,528
Street signs, other signs, and markers placed.....	Number.....	384,537	-----
Traffic lines and zones painted.....	Miles.....	802	105
Curbs, gutters, and guardrails.....	do.....	150	76
Airport and airway work:			
Landing fields.....	Number.....	6	14
Seaplane landing facilities.....	do.....	96	3
Aircraft hangars and airport buildings.....	do.....	14	54
Airway markers placed.....	do.....	1,046	-----
Conservation activities:			
Riverbank and streambed improvement (including levees and retaining walls).....	Miles.....	1,041	24
Check and storage dams.....	Number.....	4,439	81
Soil-erosion control and landscaping.....	Acres.....	163,357	-----
Trees planted.....	Number.....	7,006,040	-----
Tree and plant nurseries.....	Acres.....	25,405	1,327
Firebreaks and fire trails.....	Miles.....	1,527	96
Fire-observation structures.....	Number.....	10	70
Bird and game sanctuaries.....	Acres improved.....	11,556	10,060
Fish hatcheries.....	Number.....	895	75
Stocking, fingerling fish.....	do.....	137,477,746	-----
Stocking, other game.....	do.....	189,335	-----
Fencing and snow fences.....	Miles.....	398	542
Public utilities:			
Sewer and water lines.....	do.....	133	19
Sanitary privies, cesspools, and septic tanks.....	Number.....	2,366	98
Storage tanks, reservoirs, cisterns.....	do.....	83	124
Telephone and electric lines.....	Miles.....	583	293
Drainage ditches and lines.....	do.....	102	110
	Unit	Amount	
Production:			
Clothing produced or renovated.....	Number of articles.....	1,777,666	
Shoes repaired.....	Number of pairs.....	24,098	
Household articles, bedding, etc.....	Number of articles.....	478,466	
Hospital supplies, bandages, etc.....	do.....	8,289,213	
Recreational and playground equipment constructed or repaired.....	do.....	62,502	
Furniture constructed or repaired.....	do.....	729,940	
Toys made or renovated.....	Number.....	628,908	
Window and door sashes, screens, and frames.....	Number of articles.....	27,869	
Tools and mechanical equipment constructed or repaired.....	Number.....	81,956	
Copper and tin gutter and spout constructed.....	Linear feet.....	18,379	
Enamelware produced.....	Number of articles.....	998	
Airport markers (windsocks, boundary, and range cones).....	Number.....	3,408	
Concrete block and precast concrete articles.....	do.....	1,208,850	
Lumber produced.....	Board feet.....	3,572,355	
Firewood cut.....	Cords.....	189,803	
Crushed stone, sand, and gravel produced.....	Cubic yards.....	256,074	
School lunches served.....	Number.....	25,712,089	
Foodstuffs produced.....	Pounds.....	2,956,800	
Canning and preserving.....	do.....	1,366,518	
Museum articles prepared or renovated.....	Number.....	174,292	
Museum articles cataloged.....	do.....	295,693	

The Student-Work Program

The NYA student-work program includes provisions for young people in secondary and high schools, colleges, and universities.

Tax-exempt, nonprofit, bona fide educational institutions, both public and private, may take part in this program. During the 1939-40 scholastic year, 28,301 secondary and high schools and 1,698 colleges and universities participated in the program.

Students who wish employment apply to the authorities at the institutions they desire to attend. The workers are selected by the local school authorities "on the basis of need and scholarship." These authorities also plan the work to which the students are assigned. "No job may be created under the student program, which displaces any regularly employed worker, and no NYA student may perform work which is provided for by the schools' normal budget."

Earnings and Hours

In the academic year 1939-40 the monthly wages of NYA students were from \$3 to \$6 for high-school students, \$10 to \$20 for college students, and as much as \$30 for graduate students, with a minimum of \$20.

In 1939-40 NYA students worked a maximum of 3 hours each school day and 7 hours per nonschool day. College and graduate students were restricted to 8 hours of work in any one day. Maximum work hours for school students' school days in 1940-41 have been fixed at 4. The same wage schedules as those of 1939-40 are to be maintained for the scholastic year 1940-41 except that the minimum of the monthly earnings of graduate students is reduced to \$10.

Among the types of work done by NYA students are tutoring retarded pupils, collecting and preparing supplementary teaching material, working in libraries, grading papers, repairing and remodeling educational buildings, playgrounds and athletic fields, landscaping, constructing sidewalks and roadways, clerical, research, and health work.

Negro Participation

In educational institutions to which Negroes are admitted Negro young people take part in the general employment projects. Furthermore, special allocations of funds are made to Negro colleges. An allotment of \$468,000 was made in 1939-40 to 113 Negro colleges from the general student-work fund. A special allocation of \$105,000 available to Negro college and graduate students has been used to make it possible for Negro students residing in States which have restricted university facilities for Negroes to pursue their courses in other States.

The proportion of Negro youth on the student-work program is about the same as in the general youth population—10.4 percent.

Eight Years of CCC Operations¹

In 8 years of operation—from April 1933 to April 1941—some 2½ million men have served in the Civilian Conservation Corps. Of these enrollees over 2,400,000 were young men and 145,000 were war veterans. This organization was established by act of Congress in the spring of 1933 to provide employment, vocational training, and educational opportunities for jobless youths; to make it possible for young men enrolled in the CCC to give financial aid to their dependent families; and “to advance a Nation-wide conservation program on forest, park, and farm lands.”

The CCC was an independent Government agency until July 1, 1939, when it was made a unit of the Federal Security Agency established under the Reorganization Act of that year.

The general objectives of the Corps have not changed since its creation, but today the parts of the program which are related to national defense are being more strongly emphasized.

The present article is based on the latest published reports of the CCC, remarks by Representative Jennings Randolph in the Congressional Record of April 3, 1941, and unpublished data supplied by the Corps.

Selection of Enrollees

The office of the CCC Director has the responsibility of selecting junior enrollees. The immediate supervision of the activities of State selection agencies is the duty of a special assistant to the Director. Through these State agencies (which are State public welfare services already in operation) the selection of junior enrollees is made in each State. “Uniform national standards of eligibility, approved by the Director, provide the basis upon which all selections are made.”

Eligibility and Other Enrollment Regulations

To be eligible for enrollment in the CCC a man must be—

1. A citizen of the United States.
2. Between the ages of 17 and 23.
3. Unmarried.
4. Unemployed and in need of employment.
5. Not under conviction for crime or on probation or parole.
6. Willing to make an allotment, if he has dependents.
7. In good physical condition and with no history of mental derangement; of good character, with stability of purpose, and a desire for work experience and self-improvement.

No age or marital restrictions are provided for war veterans.

During the last year the requirement for eligibility “unemployed and in need of employment” has been interpreted to include young men who were jobless and needed employment “although their families were not necessarily in financial distress.”

¹ Abstract of article in the Monthly Labor Review for June 1941.

A man enrolls for 6 months. Only under unusual circumstances or when offered permanent employment is an enrollee discharged before the close of the 6-month term.

After the completion of a full 6-month enrollment the enrollee may, if he desires and his work has been satisfactory, re-enroll at his camp. If he does not wish to do so, he may be honorably discharged and given return transportation to his home or to the place he selects, whichever is nearest to his camp.

The maximum service period for juniors is 2 years. However, the following 10 enrollee positions in each camp are exempted by law from maximum age and length of service restrictions: Five enrollees selected by the technical service in the camp as project assistants, who work as subforemen or specialists on the conservation work project, and 5 other enrollees assigned to the camp administrative staff—2 cooks, storekeeper, mess steward, and senior leader.

Number of Camps and Enrollees ²

The camps for juniors and war veterans number 1,500; in addition there are about 75 on Indian reservations for Indian enrollees. The camps are situated in every State, the District of Columbia, Alaska, Puerto Rico, the Virgin Islands, and Hawaii. The enrollees in Territorial camps are selected from the Territory in which they live.

Each camp is constructed to house 200 enrollees. Juniors and war veterans live in separate camps.

The authorized strength of the CCC is 300,000 men, of whom not over 30,000 may be war veterans. An additional enrollment of not more than 10,000 Indians and 5,000 enrollees in the Territories is authorized.

As stated above, in the 8 years (April 1933 to April 1, 1941) over 2,400,000 young men and 145,000 war veterans have served in the camps of the CCC. Each enrollee is counted only once without regard to the number of times he is reselected.

Over 1,640,000, including some 280,000 enrollees of the CCC and 1,360,000 of their dependents, are helped each month by the organization.

Character of Work

More than 150 major types of work are carried on by the Corps. These may be grouped under the following general heads: Soil conservation, forest protection and improvement, reforestation, recreational developments, range rehabilitation, aid to wildlife, flood control, reclamation, and emergency rescue work.

The establishment of the CCC has for the first time made available to Federal, State, and local governments and private landowners an adequate supply of manpower and funds with which to carry forward urgently needed programs for conservation.

The accompanying table shows some of the work accomplished by the Corps during the 8 years of its operations.

² Action by Congress on appropriation bills fixing the number of enrollees to be maintained during the fiscal year 1941-42 had not been completed when this article was prepared.

*Selected work accomplishments of the CCC, April 1933 to Apr. 1, 1941*¹

Type of work	Unit	New work	Maintenance
Bridges	Number	45, 142	15, 788
Impounding and large diversion dams	do	6, 837	2, 928
Fences	Rods	24, 969, 767	6, 865, 244
Telephone lines	Miles	84, 737	243, 461
Airplane landing fields	Number	68	65
Truck trails or minor roads	Miles	118, 492	509, 137
Erosion-control check dams	Linear feet	5, 858, 301	175, 942
Terrace-channel construction	do	41, 508, 641	2, 195, 320
Terrace-outlet structures	Number	396, 295	26, 661
Excavation, channels, canals, and ditches	Cubic yards	26, 237, 140	68, 586, 310
Field planting or seeding trees	Acres	2, 060, 403	207, 983
Forest-stand improvement	do	3, 879, 280	16, 755
Fighting forest fires	Man-days	6, 273, 220	-----
Fire-hazard reduction (other than roadside or trailside)	Acres	2, 070, 977	-----
Fire prevention	Man-days	683, 262	1, 412
Tree and plant disease control	Acres	7, 963, 249	718, 431
Tree insect pest control	do	12, 693, 331	173, 880
Public camp-ground development	do	49, 255	37, 282
Stocking fish	Number	931, 216, 114	-----
Eradication of poisonous weeds or exotic plants	Acres	864, 967	-----
Insect pest control	do	5, 508, 509	47, 392
Rodent and predatory animal control	do	3, 851, 234	715, 648
Timber estimating	do	34, 948, 531	91, 802

¹ Figures for February and March 1941, estimated.

At least 75 percent of the general run of CCC field work is of a type which engineer troops do in peace or war. Enrollees also receive training in various duties, performed by men in the Quartermaster Corps, and by industrial and agricultural workers behind the lines, so that no important change was required in the job and job-training features of the Corps program to make it a definite contribution to the preparations for national defense.

There was, however, a revision of the academic- and vocational-training activities in order that the greatest emphasis might be placed on those phases which contribute the most to national defense. Instructions were sent to all camps directing officials in charge of these activities to see that the training programs were so conducted.

A daily calisthenics drill was instituted which, coupled with the regular work program and the discipline of barracks life, conditions them for whatever service they may be called upon to render to their country. All of the enrollees are required to take the standard Red Cross 20-hour first-aid course, which means that a half million men will have learned proper basic methods of caring for wounded or sick persons.

Remuneration

A CCC enrollee is paid \$30 per month, including \$8 in cash and an allotment of \$15 to his dependents. The remaining \$7 is deposited to his credit each month and is held until he is discharged, when the total amount is paid over to him.³ If he is without dependents he is required to deposit \$22 per month until he is discharged, at which time he receives the whole amount he has deposited. With the exception of leaders and assistant leaders, all enrollees receive the same amount in cash per month—\$8.

It is estimated that the real monthly wages of CCC boys are \$66.25, including cash allowances, subsistence, shelter, clothing, personal supplies, education, welfare, transportation, and medical care.

Not over 10 percent of the enrollees of each company may be appointed assistant leaders and be paid \$36 per month. Not over 6 percent may be appointed leaders, receiving \$45. Both leaders and

³ Previous to January 1, 1941, the enrollee sent \$22 of his pay to dependents. The savings scheme is a recent innovation.

assistant leaders are required to allot \$15 for dependents and to deposit \$7 of their cash earnings in a special savings fund. These savings are turned over to them in a lump sum when they are discharged from the Corps.

Upon entering the CCC each enrollee is supplied with complete clothing outfits. He is furnished with suitable clothes for both work and dress occasions. His uniform for winter is spruce green with a woolen olive drab shirt, black necktie, and black shoes. The summer dress uniform is khaki.

All enrollees are provided, if needed, with adequate dental, medical, and hospital care. The United States compensation law, covering Federal employees, has been amended to include enrollees who incur certain types of injuries in the line of duty.

Cost of Maintaining an Enrollee

The Corps estimates that it costs \$500 to maintain a young enrollee for 6 months, \$320 being allocated to the operation of the camp, \$90 to the youth's dependents, \$48 to the boy in cash, and \$42 to his savings fund.

Educational and Training Opportunities

Each camp maintains separate school buildings and workshops for the training of enrollees after the duties of the day are accomplished. Enrollees are also trained on the job, while at work. Each camp has an educational adviser who, under the camp commander's direction, supervises a study program for interested enrollees. All the officials of the camp help to carry out the educational program. Health, first aid, safety, and citizenship training is given to all boys in the Corps.

Approximately 91 percent of the enrollees take advantage of the camp educational opportunities. The only study in leisure time that is actually required of the enrollees is for those who cannot read or write. These campers are obliged to attend classes for the elimination of illiteracy.

Since the Corps' establishment, over 87,000 have been taught to read or write. Many of the enrollees continue their studies during their service.

The work supervisor gives training on the job to the men and boys who are actually at work on the various jobs undertaken by the CCC.

Approximately 50 percent of the enrollees supplement their training on the job by class attendance in CCC vocational shops or in neighboring trade schools where training may be had after the regular camp working day is over. In the early spring of 1941, 26,000⁴ enrollees were following special national defense vocational courses in cooperation with State educational departments.

An allotment of \$10,000,000 has been made to the United States Office of Education for training rural youth for national defense. However, in certain rural communities trade schools have not been established. On the other hand, numerous CCC camps have well-equipped training shops and educational buildings. In accordance with requests from State educational departments the Director of the CCC has ruled that the youth in such communities may avail themselves of the classes in the camp shops and schools.

⁴ 35,000 as of May 31, 1941.

Opportunities for vocational training in the Corps may be classified as follows:

1. Training received while at work, such as truck and tractor driving, blasting, and road bridge building.
2. Related training given in camp classrooms after work hours, such as radio, photography, theory of surveying, forestry, soil-conservation work, public-grounds development, etc.
3. Camp shops—here are taught such things as welding, woodworking, motor repair, etc.
4. Nearby schools—these offer various vocational training opportunities for CCC enrollees.
5. CCC central repair shops—a limited number of enrollees who have shown special aptitudes are chosen for training in motor mechanics at these shops throughout the country, where major repair and overhaul of CCC motorized equipment is done.

Cooperation of Educational Institutions in School Year 1940-41

The Director of the CCC announced to the press on January 13, 1941, that 126 colleges and universities were directly assisting CCC enrollees in the scholastic year 1940-41. This aid, which includes scholarships, remission of fees, part-time jobs, and similar types of assistance, is making it possible for 303 enrollees to continue their training in the higher educational institutions. The great majority of these enrollees were honorably discharged from the CCC in order that they might give all their time to their studies.

Over 250 high schools and vocational-training schools are also cooperating with the educational officials of the Corps not only by providing classroom and shop instruction in the schools but also by supplying instructors for night classes in the camps. At the beginning of 1941 over 7,500 enrollees were receiving instruction in schools near the camps.

The departments of education in 41 States and the District of Columbia are now granting grade, high-school, and college credits for work done in camps.

Assistance in Placement of Enrollees in Private Jobs

The CCC aids both directly and indirectly in placing its men and boys. According to the CCC, the average enrollee while in camp improves his education and learns proper methods of work and habits of industry and cooperation. He is also taught how to make application for a job.

Officials of the Corps and the State CCC selecting agencies cooperate with public employment offices, chambers of commerce, and employment managers of business establishments in placing CCC boys in permanent jobs.

Life in the Camps

The men rise at 6 a. m., take calisthenics for a quarter of an hour every morning except Sundays and holidays, breakfast at 6:30, police their barracks and camp, and begin work at 8. Their working day closes at 4 p. m. Free time follows. After supper they may study, read, or follow other activities of their own choosing until 10 p. m.—their bedtime.

The camps are provided with equipment for sports and games, library books and magazines, and materials for study. Among the

many recreational activities of the enrollees are hiking, fishing, swimming, baseball, boxing, and glee clubs.

The CCC religious activities are supervised by the Office of the Chief of Chaplains of the United States Army. Catholic, Protestant, and Jewish clergymen conduct religious services in the camps and meet other religious requirements when necessary.

Participation of Negro Youth

In 8 years, 1933-41, 350,000 Negroes have served in the CCC. According to a recent report of the Corps the average gain in weight of these young men from their enrollment has generally ranged from 7 to 12 pounds.

In the spring of 1941, 30,000 colored youth and war veterans, constituting about one-tenth of the total enrollment, were taking active part in the program of the Corps.

The aggregate monthly allotment made by the young men to their parents and dependents at home was about \$700,000.

Personnel.—The colored personnel engaged in the work of the camps, included, on April 1, 1941, about 2,000 project assistants, leaders, and assistant leaders; approximately 600 cooks; 400 typists; 151 college-trained educational advisers; 50 United States Army Reserve Corps chaplains and local ministers; 50 camp commanders and subalterns; 1 camp superintendent, and 3 other graduate engineers who are in charge of the Corps project at Gettysburg National Military Park, Pennsylvania, and several technical engineers on camp duty.

Instruction.—Over 15,000 Negro enrollees have been taught to read and write. Most of the colored enrollees during their leisure hours regularly attend the academic, vocational, and job-training classes held in the camps. Among the institutions that have granted scholarships and fellowships to CCC enrollees are: Howard University; Wilberforce University; Tuskegee Institute; Hampton Institute; Florida Agricultural and Mechanical College, Tallahassee; and Tennessee Agricultural and Industrial State Teachers College, Nashville.

In the 8 years, 1933-41, approximately 15,000 colored enrollees have completed first-aid courses through the cooperation of the CCC and the National Red Cross.

Administration

The program of the CCC is administered by a Director who is appointed by the President, by and with the advice and consent of the Senate. He is charged with the coordination and direction of all the operations of the CCC. Three Government departments and one agency cooperate with the Director in enrolling men, administering the camps, and in carrying forward work programs. The quotas of men to be enrolled from each State are approved by the Director, also all locations for Corps camps and all regulations issued with reference to CCC administration and operation.

Federal departments assisting in administration of CCC.—The Secretaries of War, of the Interior, and of Agriculture, and the Administrator of Veterans' Affairs each appoint a representative to the CCC Director's Advisory Council. Upon the request of the Director, the council members confer with him and under his direction assist him in conducting the Corps program.

Employment Status of Philadelphia Public-School Graduates of 1936 ¹

The majority of the 5,904 Philadelphia senior high-school graduates of 1936 seem to have been able to make satisfactory educational, occupational, or other adjustments. On May 1, 1938, according to the findings of an employment service survey,² 53 percent of these graduates were employed, 23 percent were attending day school, and 3 percent were not looking for employment. Although 21 percent were reported unemployed, only 1 of every 38 graduates had not been employed at some time since graduation. Notwithstanding the business recession, these graduates had averaged 16 months of employment during the 23 months since their graduation.

Of 464 vocational-school graduates of 1936, who were also included in the survey, 57 percent were employed, 2 percent were attending day school, and 5 percent were not seeking jobs. Of these vocational-school graduates, 36 percent were seeking work on May 1, 1938. However, only 1 of every 15 had had no employment since graduation, and, despite the recession and their youth, the members of the class of 1936 had averaged 14 months of employment since graduation.

Of the 1,429 employed graduates of the business courses of the senior high schools, 87 percent had positions in which they could utilize such training; and 54 percent of the 352 employed graduates who had followed the industrial curriculum of the senior high schools held positions related to their training. Furthermore, 63 percent of the graduates who were looking for jobs had been employed at one time in work related to the industrial courses they had taken.

In the dressmaking curriculum of the vocational schools, 58 (84 percent) of the 69 employed graduates of 1936 were engaged in the needle trades, 38 of them using power operating machines in their work. Moreover, of the 33 graduates looking for jobs, 18 had last been employed on work in which they could make use of their training in dressmaking. All of the 12 employed graduates of the millinery curriculum were engaged in millinery work, in hat manufacture, or in the clothing trades.

Fifty-three (or 65 percent) of the employed graduates of vocational-school industrial courses were engaged in work related to their training, and 30 (or 47 percent) of the employed graduates of the business curriculum were in office work.

The median weekly wage rate of the employed senior high-school graduates of 1936, at the time of the survey, was \$15, the rate for males being \$16, and that for females \$15. For vocational-school graduates of 1936, the median rate for both sexes combined was \$14, for males \$17, and for females \$13. Thirty percent of the employed graduates of the vocational schools were receiving over \$15 per week, as compared with 46 percent of the senior high-school graduates.

Changes in conditions of employment not only have their effect upon job opportunities but also exert a substantial influence on the

¹ From the Monthly Labor Review for October 1939.

² Pennsylvania State Employment Service. Junior Employment Service of the School District of Philadelphia. How Fare Philadelphia Public School Graduates. Philadelphia, February 1939.

character of the qualifications required by employers. It is pointed out that a coordinated counseling, training, and placement program would tend to improve the educational and occupational adjustment of both senior high-school and vocational-school graduates.



Work History of Former Rochester High-School Students ¹

The majority of the 5,266 former students of the Rochester, N. Y., high schools who were covered in a survey in 1936 ² came from families in which the fathers were skilled or semiskilled industrial and commercial employees. The students included in the study entered high school in September 1924, 1927, and 1930, and January 1925, 1928, and 1931. The college preparatory course was the course taken by the largest number of the students. However, the percentages taking that course had declined from 37.3 and 44.7 to 28.2 and 29.6, while the percentages registered in the commercial and industrial-arts courses rose from 14.6 to 21.9 for the commercial course and from 3.5 to 10.4 for the industrial-arts course. The majority of the students reported they had voluntarily selected their respective courses.

Of the students covered, 48.4 percent had graduated; 28.2 percent had completed 1 year's work; 12.1 percent, 2 years' work; and 6.7 percent, 3 years' work.

The number of students leaving school varied with economic conditions and with the years of school completed. In years of prosperity students in all grades left school for employment. In years of depression students in the first 2 years of school left in larger numbers than those in the last 2.

From the following table it will be noted that the school record cards indicated far more leaving school on account of unsatisfactory grades than did the reports from the students themselves.

Reasons for leaving school

Reason for leaving	Percent of students based on—	
	School records	Personal interviews
Grades unsatisfactory.....	24.0	2.9
Not interested.....	10.3	22.6
Financial necessity.....	39.0	52.7
Left town.....	7.3	1.8
Truant.....	.2	.3
Expelled.....	1.8	.5
Illness.....	2.5	4.6
Over age.....	14.9	—
Labor assistance.....	—	14.6
Total.....	100.0	100.0

¹ From Monthly Labor Review for September 1938.

² Rochester Civic Committee on Unemployment. A Study of the Economic and Social Status of 6,000 Former Students of Rochester High Schools. Prepared by Harold S. Band, with the assistance of the Works Progress Administration. Rochester, N. Y., 1937; 3 vols. The number of schedules prepared directly from school record cards was 8,470; the number of interviews completed was 5,260.

Those high-school graduates who had gone on into college mainly followed the fine arts, science, and engineering courses. With the exception of the collegians, the greater number of the students who had taken additional training had either 6 months to 1 year or 3 years and over of such training, business-school courses requiring 1 year, and apprenticeship, trade schools, and nursing 3 years or more.

Sixty-five percent of the students without educational or vocational training other than high school were employed at the time the survey was made, while 74 percent of the former high-school students who had had further training had jobs. More than 66 percent of the students taking commercial courses in high school and in business school after leaving high school obtained jobs in the business field.

When the survey was made in 1936, slightly over 31 percent of the classes entering high school in September 1930 and 38.3 percent of the classes entering in January 1931 had never been employed. For the whole group interviewed, 26.7 percent were jobless. The great impediment in getting jobs as disclosed in this survey is that both graduate and nongraduate high-school youth have had no experience in business or industry.

In the report of the survey the importance of homes which satisfy the physical and social desires of young people is emphasized. The discontent among jobless youth seems to be in direct relation to home conditions. A student's high-school years are affected by parental opinions as to the value of his education or his value as a wage earner.

The mental outlook of unemployed young people is apparently determined by their ability to maintain their own prestige and appear equal to their fellows. The study shows that the average worker today attaches certain social values to different kinds of employment. For example, the great majority of the girls or women interviewed on this matter regarded housework as a menial occupation, and factory work was considered inferior to office work.



Employment Experience of Eighth-Grade Graduates ¹

In the report ² of a Works Progress Administration investigation made at the request of the National Youth Administration, attention is focused on the transition of urban young people from school to industry.

To get an accurate sample of urban young people, eighth-grade graduates of both public and parochial schools, for the scholastic years 1928-29, 1930-31, and 1932-33 were selected for analysis. The field work was conducted in the summer and fall of 1938 in 7 cities (Binghamton, N. Y., Birmingham, Denver, Duluth, St. Louis, San Francisco, and Seattle), as fairly representative of American cities with populations ranging from 25,000 to 1,000,000. More than 40,000 youth were included and about 30,000 detailed work histories were secured. Approximately 77 percent of all the young people interviewed were employed or seeking work at the time of the survey.

¹ From the Monthly Labor Review for November 1939.

² Works Progress Administration. Division of Research. Urban Youth: Their Characteristics and Economic Problems—a Preliminary Report of the Survey of Youth and the Labor Market. Washington, 1939. (Series I, No. 24.)

According to these work histories, some youth had little difficulty in making the transition from school to industry. Others, however, after years of job seeking were still unemployed. Still others had temporary jobs or "dead-end" employment, or were working for sub-standard wages. Many of these employed youth were dissatisfied and were seeking other work. These, as well as the young people without any jobs, constitute a real problem in adjustment.

Education

Almost 40 percent of the young persons interviewed had not completed a high-school education. Only 62 percent had continued their studies long enough to receive a high-school diploma, and only 17 percent had had 1 year or more of college. Nearly one-half (48 percent) of the youth reported lack of funds as the major reason for leaving school.

Approximately nine-tenths of the children of professional persons were at least high-school graduates, while only 44 percent of the children of unskilled workers had completed high school (table 1).

TABLE 1.—Years of school completed by youth in 7 cities, by occupation of father

Occupation of father	Number of youth	Percent of youth who had completed specified years of school							
		Total	8	9	10	11	12	13-15	16 or more
All occupations.....	1 29,966	100	11	8	10	10	44	14	3
Professional persons.....	1,323	100	2	2	3	5	36	41	11
Proprietors, managers, and officials, including farmers.....	5,756	100	7	5	8	8	44	23	5
Clerks and kindred workers.....	4,064	100	4	4	6	9	50	23	4
Skilled workers and foremen.....	6,929	100	11	9	11	11	47	9	2
Semiskilled workers.....	4,809	100	16	10	13	10	44	6	1
Unskilled workers.....	2,470	100	18	12	15	11	39	5	(²)
Servant classes.....	965	100	10	11	14	11	43	10	1
Father not family head ³	3,539	100	14	9	12	11	41	10	3
Not reported.....	111	100	15	11	14	12	40	8	-----

¹ Excludes 2 youth whose number of years of school completed was not reported.

² Less than 0.5 percent.

³ Father not in family for 10 years or more.

Securing of Jobs

Friends, relatives, and personal applications were the sources of information accounting for 65 percent of all jobs secured by the young people surveyed. Friendship with a former employer was cited as a source of information for 17 percent of the jobs which had been held. Public, private, and school employment agencies were reported as accounting for 8 percent, and newspaper ads and articles, unions, and Government personnel offices for only 4 percent, of the jobs obtained.

Lack of previous employment experience was the most important factor reported by the young people who stated that they had special personal difficulties in getting jobs.

Principal Occupations

In 1938, almost three-fourths of 24,517 youth in 7 cities were reported in two broad occupational groups—"Clerks and kindred workers" and "Semiskilled workers," (table 2).

TABLE 2.—Percentage distribution of youth in 7 cities, 1938, by occupation at time of last employment

Occupation at time of last employment	Both sexes	Male	Female
Number of youth who had had private jobs.....	24, 517	12, 440	12, 077
Professional persons.....	3	3	4
Proprietors, managers and officials, including farmers.....	3	4	1
Clerks and kindred workers.....	44	35	54
Skilled workers and foremen.....	3	6	(1)
Semiskilled workers.....	30	35	24
Unskilled workers.....	6	12	(1)
Servant classes.....	11	5	17
Total.....	100	100	100

¹ Less than 0.5 percent.

The 1935 surveys by the United States Office of Education showed 32 percent of persons 19 to 24 years of age unemployed, and the 1936 Maryland survey revealed 18 percent in that age group with the same status. According to the 1938 inquiry here reviewed, 14 percent of all young persons, and 20 percent of the labor-market youth, were unemployed. Eleven percent of all the young people had had no work at all and were actively looking for jobs; 2 percent were on Government projects; and 1 percent had been temporarily laid off or were on strike at the time of interview.

Earnings and Hours of Work

In 1938, young people at work in the 7 cities surveyed were paid on an average of \$17.19 per week, males averaging \$19.66, and females \$14.88. These findings are based only on private employment of 15 or more hours a week which the young people had at the time of interview, or, if they were not working at that time, on the last jobs that they had held in 1938. The weekly earnings of approximately 72 percent of the young men and 97 percent of the young women were under \$25. Exclusive of part-time employment of less than 15 hours per week, the young people when employed averaged 43 hours per week.

Youth Not in the Labor Market

Over two-fifths (44 percent) of all youth surveyed were outside of private employment at the time of interview, some being unemployed, but many being completely out of the labor market. Eleven percent were in school, most of these being in college or in vocational schools. Many of these students, however, were able to go on with their education only through summer or part-time jobs, NYA earnings, or scholarships.

Economic Condition of Rural Youth ¹

Widespread unemployment and decreasing opportunities for placement in the future were the conditions faced by rural youth in 1938, according to a study by the Works Progress Administration.² Ultimate farm ownership which could be anticipated by farm youth under earlier conditions is becoming a more remote possibility, and in rural America, with the development of such industries as lumbering, mining, and textiles in these areas, the trend in recent years has been toward dependence on wage work.

An appraisal of unemployment among rural youth must take into consideration the fact that family farm labor includes employables in the farm family who do not necessarily receive a stated wage, as well as gainful workers who have moved from cities to live with and help their families and relatives or to engage in subsistence farming. This definition of employment would include many young persons in relief families who were working on the home farm. It would also include a large number of surplus rural youth just above the relief level who were working at home with little or no pay because it was impossible to find work elsewhere.

Employment and Income

Most of the unpaid family labor and a large part of the hired labor on farms is performed by young persons between the ages of 15 and 24. In 1930, over 95 percent of all the young men 15 to 19 years of age and over 70 percent of those 20 to 24 years of age listed in the census as agricultural workers belonged to one or the other of these groups. Of a total of 9,562,059 male and 909,939 female workers in agriculture, there were 1,184,784 male and 475,008 female workers of all ages in the unpaid family group; approximately 12 percent of all male workers and 52 percent of the female workers were employed without pay.

The low earnings of agricultural workers and therefore of farm youth (since they form such a large proportion of all farm laborers) are shown by different studies. The average annual earnings among male agricultural workers in 11 counties studied in 1936 ranged from \$178 among Negro cotton pickers in Louisiana and \$125 among white workers in a Tennessee county to \$347 among white laborers in Pennsylvania and \$748 among orientals in Placer County, Calif. In some cases board and lodging were furnished in addition to wages, but not in a large proportion of the cases. That only a small proportion of farm boys have an agreement with their fathers as to the payment for their work is shown by an Iowa study made in 1934. Of 1,107 out-of-school farm youth only 286 reported that they received wages for work performed by them. An example of the extent of unemployment among the rural youth during the depression years is shown

¹ From the Monthly Labor Review for March 1939.

² Works Progress Administration, Division of Social Research. Rural youth: Their situations and prospects, by Bruce L. Melvin and Elna N. Smith. Washington, 1938. (Research Monograph XV.)

by a county in New York in which only 42 percent of the unmarried rural youths aged 15 to 29 who were not in school had full-time employment in 1935 and 30 percent were completely unemployed or working only occasionally. On the farms of the county 21 percent of the young men were unemployed. Of the total employed in both villages and open country the principal occupations, in the order of their importance, were those of farm laborers, unskilled laborers, and skilled mechanics. The average weekly earnings of the entire employed group were \$13. Of 110 married young men in the same county, 81 percent were employed full time and had average weekly earnings of \$18, but 21 percent received less than \$15 a week. The average cash income of 282 single rural young men and women in 5 Connecticut townships was \$221 for the 12 months ending in the spring of 1934, ranging from an average of \$112 for those aged 16 to 17 years to \$378 for those 21 to 25 years of age. Many of this group had board, lodging, and clothing provided in addition to wages.

A recent survey of unmarried young persons in Arkansas, Maryland, Iowa, Utah, and Oregon by the Department of Agriculture showed that only 26 percent were not dependent on their father's farm for employment, 36 percent were either operating the home farm or replacing a hired man, and 38 percent were dependent on the home farm but if needed at all were employed only at seasonal labor. Other local studies show the same high percentages either entirely unemployed or not self-supporting.

The increase in the number of young persons in rural areas, especially on farms, between 1930 and 1935, was due, in addition to the normal population increase, to the checking of the movement toward the cities which characterized the decade between 1920 and 1930.

The situation of young women who have been forced to remain at home is even more precarious than that of the young men. The traditional job of these young women is housework or farm labor, although the villages do offer some employment opportunities. Young women are even more dependent on the generosity of their parents than are young men. One study in Wisconsin showed that 65 percent of the girls depended upon their parents for spending money and only 20 percent were economically independent. In the tobacco and cotton farm families of the South the position of the young women in the family is that of an unpaid servant.

Youth on Relief

The number of rural youth in relief families reached its peak in 1935 when about 1,370,000 young persons, or 14 percent of all rural youth, were receiving aid. By October of that year the number had declined to approximately 625,000. This reduction was due in the main to the expansion of the Civilian Conservation Corps and to the transfer of rehabilitation families from the Federal Emergency Relief Administration to the Resettlement Administration and did not mean that any large number had secured employment. From February 1935 to October 1935 there was an increase in the relative proportion of young women on relief, as the CCC and most agricultural and other work opportunities were open only to young men.

Employment Opportunities

In the past, rural youth could look forward ultimately to farm ownership, starting first as a farm laborer, becoming a tenant, and then owning a farm, but several factors have combined to make this progress more and more difficult. These include the growing burden of debt on the farms, increase in tenancy, decreased demand for farm laborers, the trend toward large-scale ownership of land, the mechanization of agriculture, and the development of areas of general agricultural maladjustment.

The largest group of unemployed young persons in the urban population is concentrated in the group below the age of 20. According to a study of workers on relief made in March 1935, 49 percent of all urban workers 20 years of age and under were inexperienced, as compared with 14 percent of those aged 21 to 24 years. Since young persons form a large proportion of the migrants from rural to urban areas it is evident that such migrants are likely to find the labor market already glutted with young persons of their own age.

In conclusion, it is stated that "even with a substantial increase in urban employment it is doubtful if there will be a demand for workers approaching the available supply. Faced with restricted opportunities in urban areas rural youth can no longer solve their economic problems by leaving the village or the farm."



Youth in Agricultural Villages ¹

Almost 25 percent of the youth 20 to 29 years of age living in 45 agricultural American villages in 1936 had come to these small rural communities from the country or from larger towns and cities during the previous 5 years.² However, chiefly because of inadequate employment opportunities, even greater numbers of young persons had left these villages. These shifts between 1930 and 1936 resulted in a decline of 22 percent in the number of young persons in such villages.

The youth who continue to live in these agricultural villages or who migrate to them have significantly different characteristics from the young people in the United States as a whole, and according to findings of the survey here reviewed, are relatively favorably situated within the country's total group of young people. They do not seem to suffer severely from unemployment, although a large number of them were found to be underemployed and occupational opportunities are rather restricted. They have had relatively little aid from the various emergency agencies.

With a few exceptions, the villages included in the investigation are in average or better-than-average sections of the country. Cases of over 10,000 persons from 16 to 29 years of age were studied, and also the histories of 3,400 economically independent young people who had migrated from these villages.

¹ From the Monthly Labor Review for May 1940.

² U. S. Work Projects Administration. America's "Home Town" Loses Its Young People. (Press release March 31, 1940, based on report of that administration, on Youth in Agricultural Villages, by Bruce L. Melvin and Elna N. Smith, Washington, 1940.)

Findings of Study

Among the principal findings of this investigation are the following: Agricultural-village youth are very mobile. Almost half the young men and over a third of the unmarried young women who were not in school in 1936, had moved at least once since they were 16 years of age. These moves did not include residential changes within the villages.

While there were 87 young males to 100 young females in these villages, urban centers were attractive to a larger percentage of the young women than of the young men who deserted the villages. Marriage seems to be a notable cause of the migration of girls from villages, whether to the city or to other rural places.

The young people in agricultural villages reach a relatively higher educational level than in the rural regions as a whole. Over 50 percent had completed high school. The boys in school outnumbered the girls. Vocational courses were followed only by a few and those who had such training were as a rule prepared for fields which were overcrowded.

More young men (37 percent) were employed as unskilled laborers than in any other category. More young women (35 percent) were employed as clerks and in similar work. This category was also important among the men. Unskilled women were employed chiefly as servants. Professional openings were relatively numerous, especially for women. The economically independent young people who had left home were better off occupationally than those who stayed, particularly with reference to the professions.

Of the young people in the 16-29 age group who were not in school, 90 percent of the young men, 66 percent of the unmarried young women, and 13 percent of the married women had some employment when they were interviewed. However, over half of the men and the unmarried women had had no income or had received an income of less than \$300 in the previous 12 months.

The young villagers owned little property besides their personal belongings. Furniture, automobiles, and savings were the items most commonly owned. One-fifth of the married men possessed only personal property. Over one-half of the men out of school and seven-tenths of the unmarried women who had property reported assets under \$300.



Economic Problems of Youth As They Affect Other Groups ¹

In order to get an adequate picture of employers' needs and employment policies in California, a questionnaire was sent in June 1939 to a representative group of 8,000 employers in that State. The approximately 100,000 employees of the 1,800 reporting establishments were in practically all industries and occupations.

The report of this survey² points out that the situation has two aspects—that of the unemployed youth trying to get started, and that

¹ From the Monthly Labor Review for October 1940.

² California. Department of Education and State Relief Administration. Youth—California's Future, by Claudia Williams, Drayton S. Bryant, and Aaron E. Jones. A summary of the findings of the California youth survey. Sacramento, March 1940, pp. 19-25.

of the adult wage earner whose employment and wage standards are threatened by young persons working for lower rates.

The jobs and wage standards of adult wage earners have been increasingly threatened by the apparent oversupply of labor, of which a prominent part is composed of youths. Especially have the needs of youth for jobs endangered the economic standards and conditions which labor unions, as the most conscious spokesman of the needs of all wage earners, have attempted to maintain. In the case of skilled workers, particularly, there has been considerable evidence of replacement by younger workers by means of mechanization and simplification of jobs in industry.

Two hundred local unions replied to questionnaires sent to approximately all bona fide California labor unions. In the reporting unions only 76 percent of the reported membership were employed 30 hours or over per week in April 1939, excluding cannery union members, almost all of whom were then unemployed.

Many young persons feel that unions keep them from getting work. However, these organizations have numerous jobless members whose needs must be considered before those of nonmembers. About 50 percent of the reporting unions stated that employment was a requisite for admission to membership, and apprentices constituted only 4.4 percent of the total number of members.

However, it is seen that the total number of union members in California, estimated to be between 400,000 and 500,000, constitute at most a sixth of all persons working or looking for work. The number of members in unions having closed-shop agreements or some control over employment is much less than this. The working conditions, therefore, enforced by unions to protect their members, cannot be considered a major obstacle to employment of young people when compared to the general restriction of employment, and to the widespread unemployment of persons of all ages and occupations from every industry. * * * Increased opportunity for adequate employment is obviously the only permanent solution of the problem. Many of the present employment restrictions of labor unions would then be no longer necessary.

Considerable evidence points to the conclusion that young people can compete in the labor market mainly by being willing to work for lower pay. As to this, the report points out that any widespread wage reduction assisted by a substantial surplus of skilled workers "does not appear to serve the best interest of wage earners as a group."

The findings of the survey indicated that both public and private training schools are graduating many young persons with little reference to industrial requirements. Particularly disadvantageous to youth are the procedures many private training schools employ in enrolling students through high-pressure methods and paying little attention to youth's needs or actual industrial demand. It is also indicated that some California public trade schools have, on occasion, cooperated with employers to furnish low-paid labor to the disadvantage of older employees.

On the other hand, it is of benefit to young people to have their basic skills developed and made available for different uses. Of outstanding importance is the maintenance of the employability, morale, and skill of the future labor force of the United States. Even though there is no immediate prospect for employment, these benefits are of value in offsetting the demoralizing influence of widespread unemployment among youths and the insecurity which confronts most of them.

According to the report, "there is only one way in which programs of training for youth can be developed which will be fair to all groups concerned. That way is cooperation of all interested parties to plan training programs upon the basis of accurate and extensive occupational information concerning the real and not asserted employment possibilities in industry and the ability of organized labor to supply such needs."

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